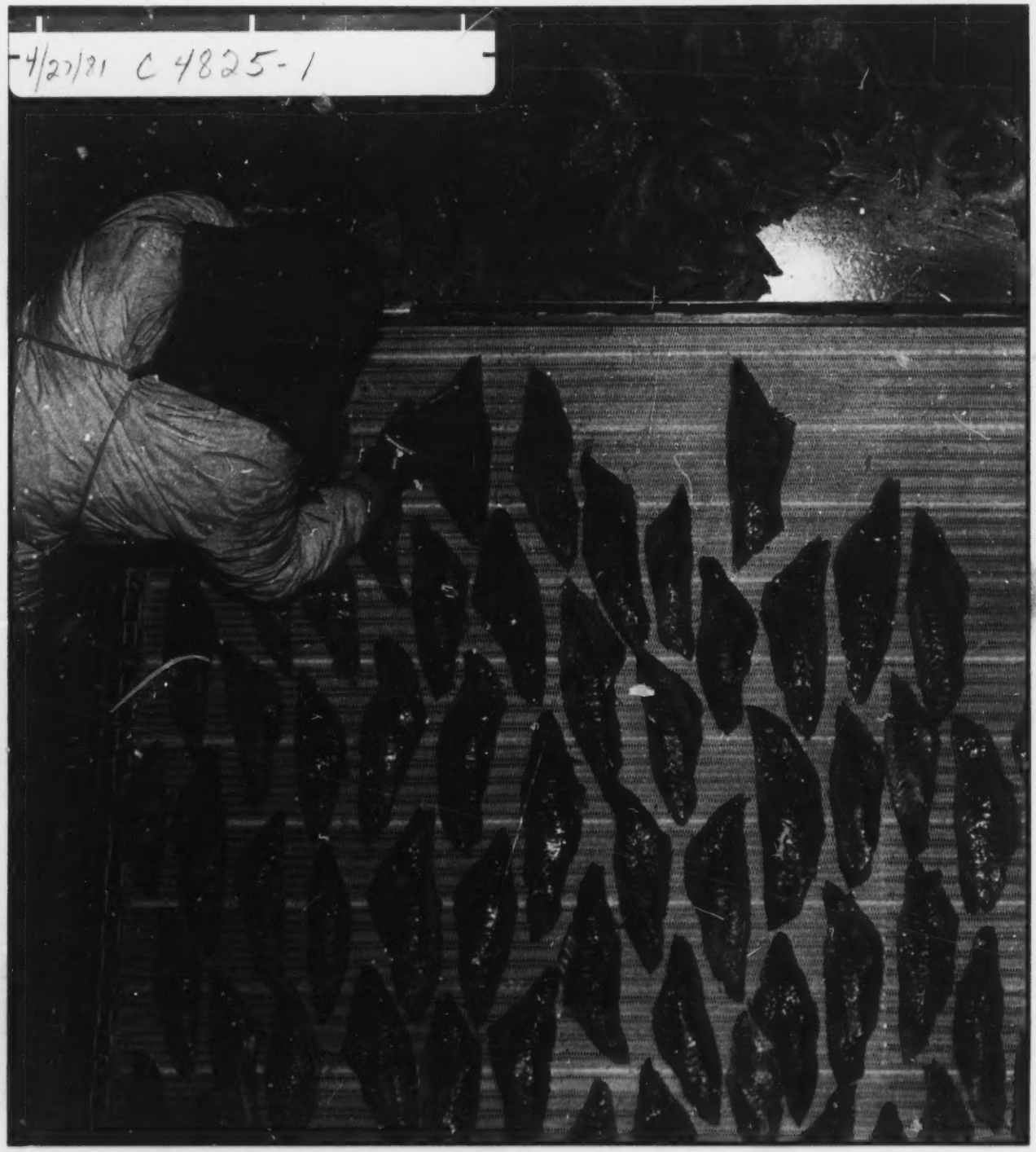
Pacific Packers Report

SPRING 1981

SEAFOOD LANDINGS
COMPANY PRODUCTION
DIRECTORY OF PROCESSORS AND BROKERS

4/27/81 C 4825-1



TREND: Vertical Integration — A Step Up
SPECIAL: Full Utilization — Are We Throwing Profit Overboard?
MARKET SURVEY: Is Seafood Playing Well in Des Moines?

The Raytheon "Big Tens." Because we all need reliable radar performance.

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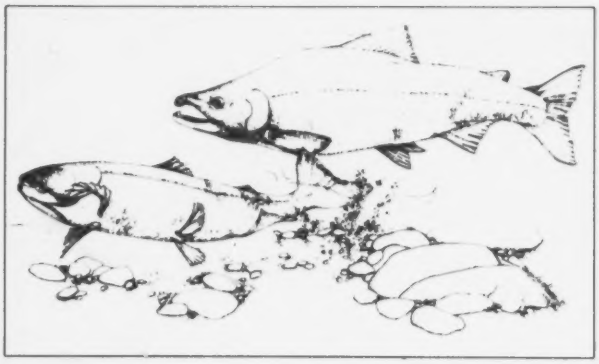
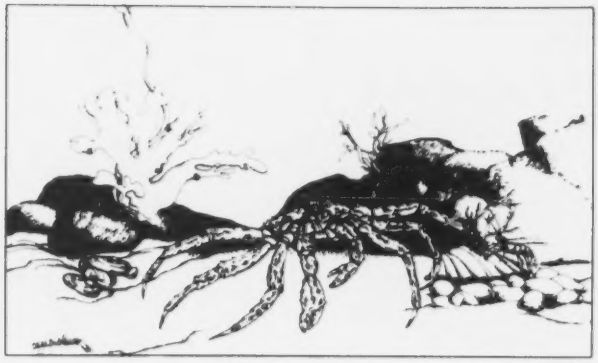
Pacific Packers Report

SPRING 1981 VOLUME 79





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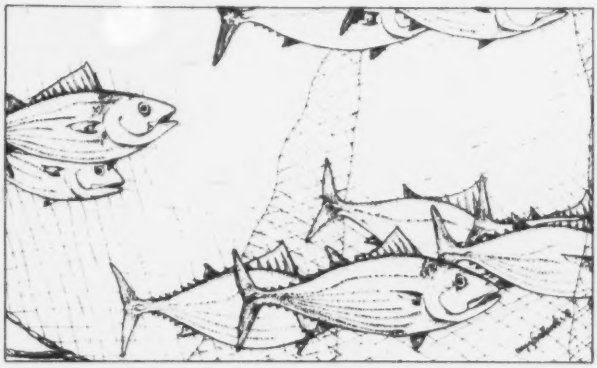

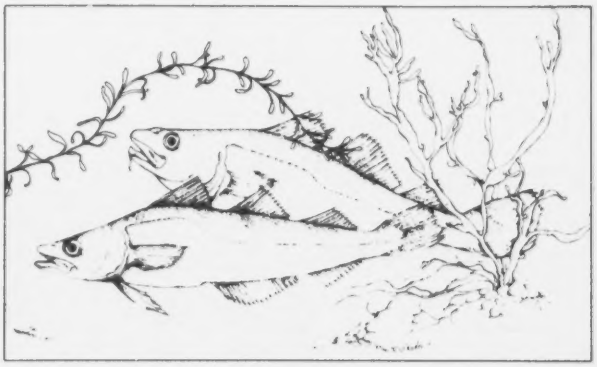

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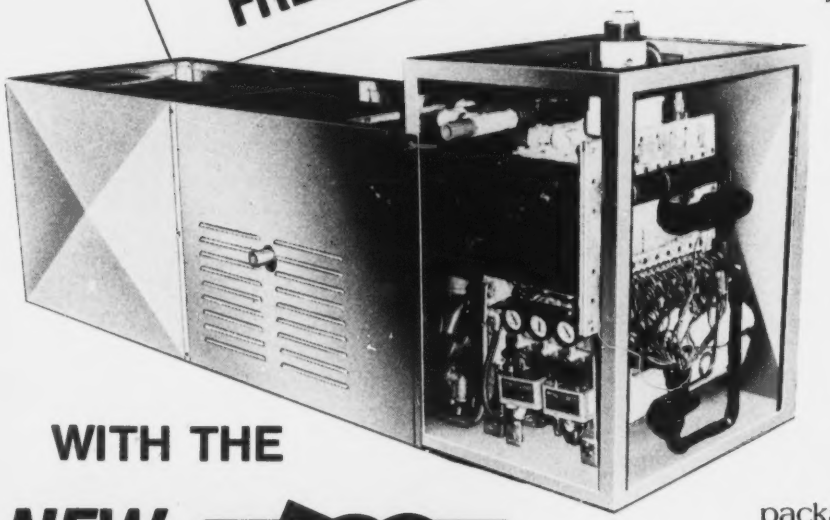
We wish to express our thanks to all processing company officials who have furnished production data for this report. As well, we thank the state and federal agencies for their assistance in providing data.

STOP

CLOGGING
CLEANING
FREEZE-UPS



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by

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All TMC units contain TURBO REFRIGERATING CO.'s exclusive stainless steel plates (proven by close to a quarter of a century of experience in ice making service) and refrigeration, supplied by TMC's time-proven condensing units.

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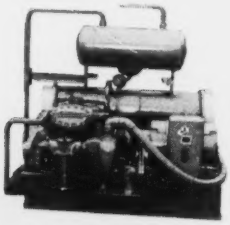
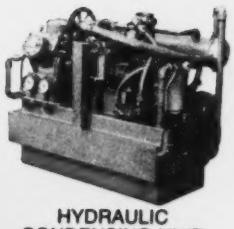
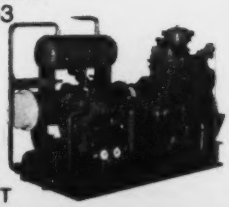


ELECTRIC CONDENSING UNIT



HYDRAULIC CONDENSING UNIT



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Spring 1981
Number 79
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Camden, Maine

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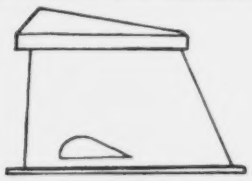
COVER: Fillets of rock cod are fed through a freezing line by a worker at Washington Crab Producers in Westport, Washington. Photo by MICHAEL NAKAMURA.



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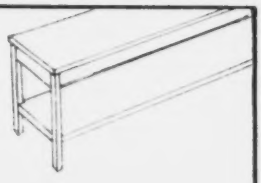

PROCESSING EQUIPMENT
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TABLES TOTES RACKS

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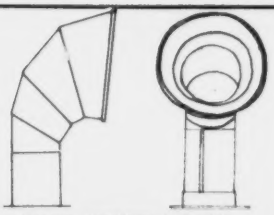

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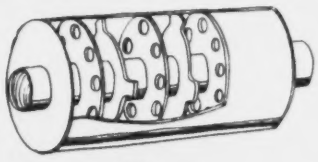

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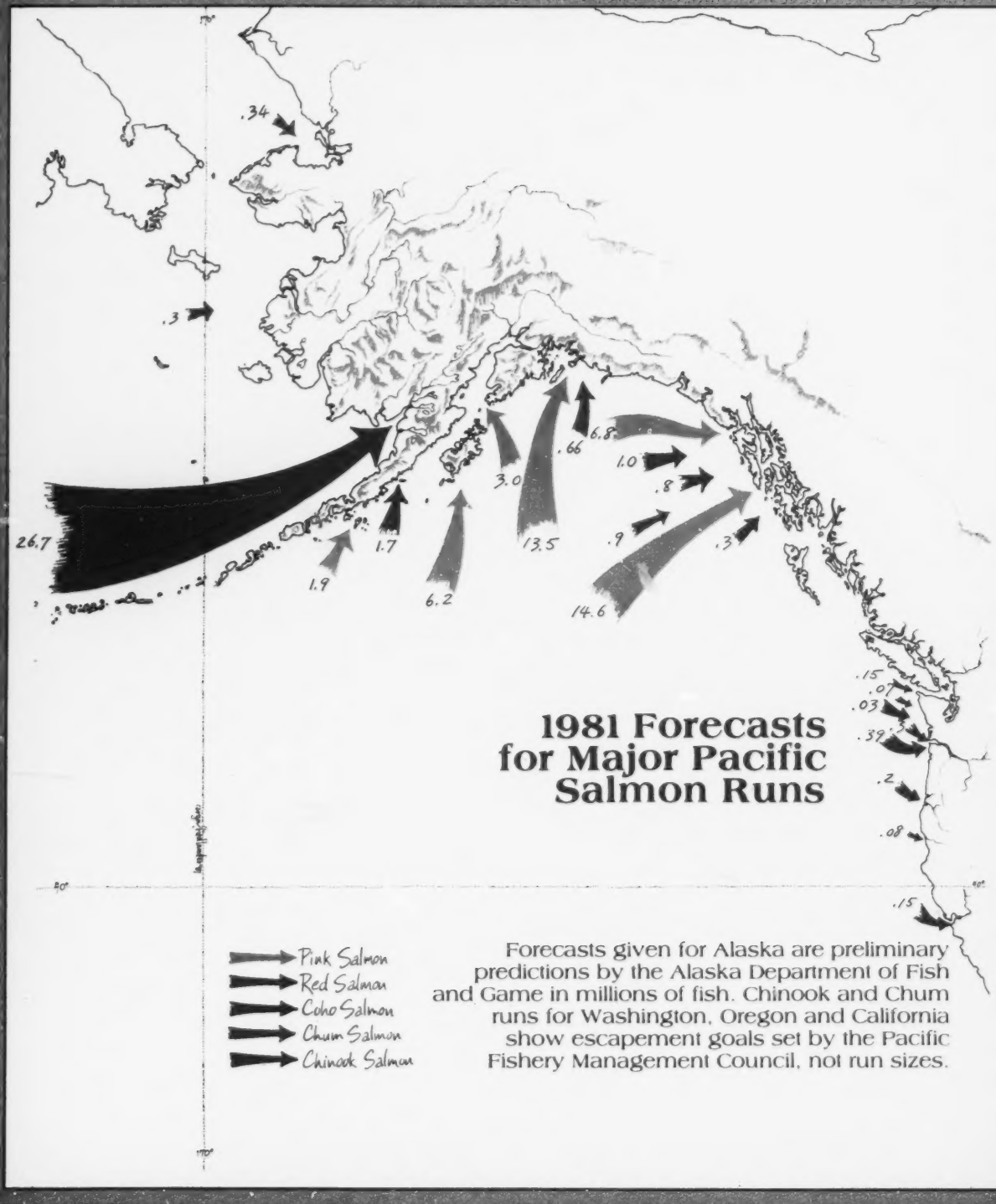
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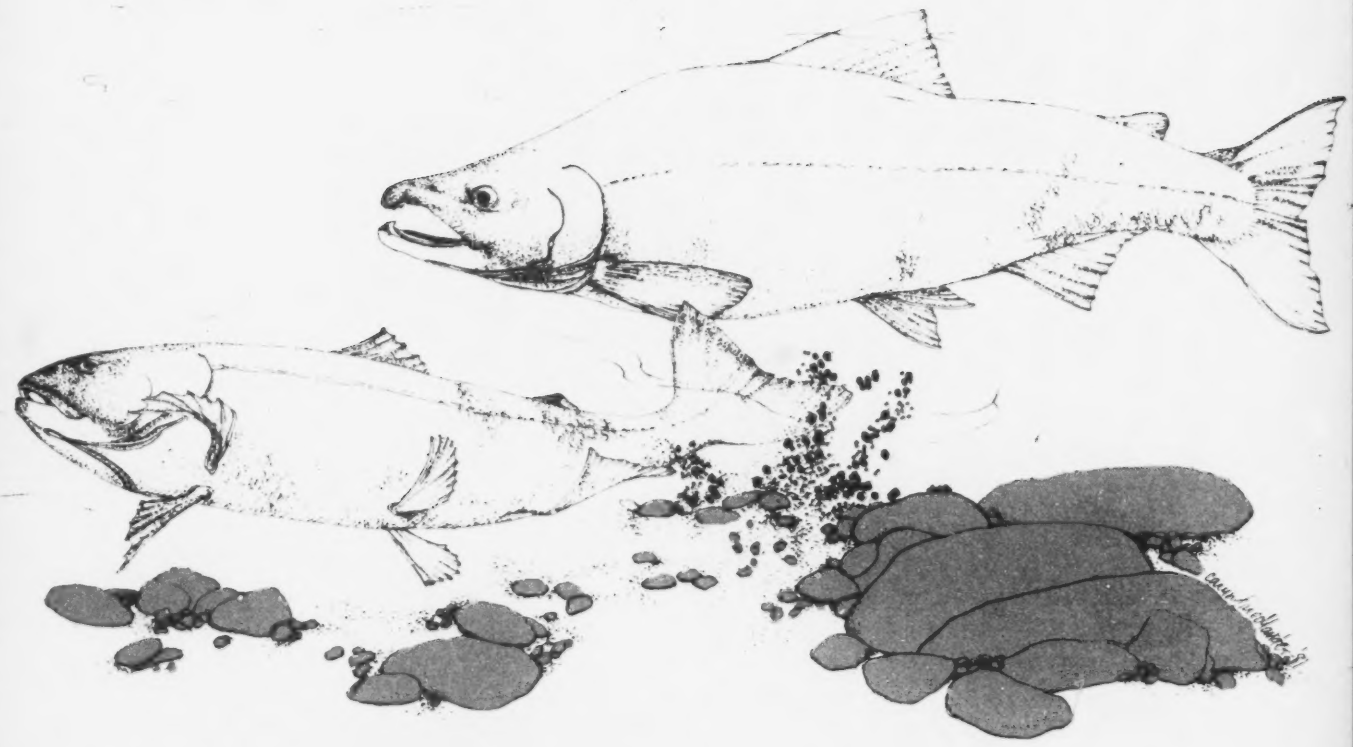
1981 Forecasts for Major Pacific Salmon Runs
Pink Salmon
Red Salmon
Coho Salmon
Chum Salmon
Chinook Salmon
Forecasts given for Alaska are preliminary predictions by the Alaska Department of Fish and Game in millions of fish. Chinook and Chum runs for Washington, Oregon and California show escapement goals set by the Pacific Fishery Management Council, not run sizes.



SALMON: Promotion Pays Off

• Cautious optimism describes the mood of salmon traders about to enter the 1981 season, while last year a cloud of gloom prevailed. If salmon canners succeed in selling 1980's king size pack of 4.3 million cases prior to 1981's run, selling the coming season's pack should be smooth sailing.

The canned pack in Alaska should fall at least to 1979 levels of 3½ million cases because 1981 will be an off year for pinks, which account for half of salmon canned. The domestic market remains steady through generic promotion efforts by the Canned Salmon Institute. In the beginning of 1981 the domestic market had not caught up with foreign outlets in selling 1980's pack. But with the advent of Lent, the industry expected U.S. sales to level off to normal consumption of around 80 percent of the total pack. Overseas markets for U.S. canned salmon have opened up. Seventeen countries imported canned salmon from the U.S. in 1980 which did not receive any product in 1979. Older smaller markets, such as Belgium, France and Holland, are growing. The United Kingdom, largest of all U.S. canned salmon importers, bought 41 percent more in the first 10 months of 1980 than in all of 1979.

• Fresh and frozen salmon producers face a less certain future. Japan, which has accounted for two thirds of frozen salmon exported in previous years bought 36 percent less product in the first 10 months of 1980 than in the same period in 1979. Forecasts on the strength of the Japanese market in 1981 are tied to the stength of the dollar versus the yen. Should the dollar fall to 180 yen, its

(Continued on page 17)

1980 Pacific Canned Salmon Packs and Values

(48 LB. CASE EQUIVALENTS)

	RED		PINK		CHUM		COHO		KING		TOTAL	
	Cases	Value $	Cases	Value $	Cases	Value $	Cases	Value $	Cases	Value $	Cases	Value $
Alaska	1,570,561	183,954,848	2,111,977	199,324,838	427,964	32,839,750	49,440	4,615,006	15,498	497,695	4,175,440	421,232,137
Washington	43,680	6,639,360	35,521	3,184,068	25,332	1,925,232	20,136	2,255,232	501	45,090	125,170	14,048,982
Oregon							305	28,518	386	65,620	691	94,138
Total United States	1,614,241	190,594,208	2,147,498	202,508,906	453,296	34,764,982	69,881	6,898,756	16,385	608,405	4,301,301	435,375,257
British Columbia	388,206	65,575,732	456,363	51,286,544	170,346	16,831,790	82,651	11,502,780	7,208	676,800	1,104,774	145,873,646
Grand Total	2,002,447	256,169,940	2,603,861	253,795,450	623,642	51,596,772	152,532	18,401,536	23,593	1,285,205	5,406,075	581,248,903

Note: Data are preliminary.

Source: ADF&G, National Food Processors, Dept. of Fisheries and Oceans of British Columbia, *Pacific Packers Report.*

1980 Western Alaska

COMPANY	LOCATION	RED 1 & 4 lb cans	RED ½ & ¼ lb cans	RED Total	PINK 1 & 4 lb cans	PINK ½ & ¼ lb cans	PINK Total
Alaska Packers Assn., Inc.	S. Naknek	48,805	16,546	65,351		2,986	2,986
Bering Sea Fisheries	Yukon River						
Bumble Bee Seafoods	S. Naknek	27,809	11,468	39,277	524	113	637
Columbia Wards Fisheries	Ekuk	71,176	8,563	79,739	13,660	3,486	17,146
	Naknek	75,461	16,608	92,069	1,074	163	1,237
Diamond E Fisheries, Inc.	Egegik		72,154	72,154		383	383
Nelbro Packing Co.	Naknek	16,392	50,686	67,078		444	444
Pan Alaska Fisheries, Inc.	Unalaska	34,937	9,048	43,985	71,566	347	71,913
Peter Pan Seafoods, Inc.	Dillingham	51,234	13,655	64,889	7,133	5,891	13,024
Red Salmon Co.	Naknek	27,809	11,468	39,277	524	113	637
Togiak Fisheries, Inc.	Togiak	17,758	3,612	21,370		1,783	1,783
The Village Cannery	Mt. Village						
Miscellaneous	Western Alaska	27,695	49,592	77,287	3,548	16,707	20,255
TOTAL	Western Alaska	399,076	263,400	662,476	98,029	32,416	130,445

1980 Central Alaska

COMPANY	LOCATION	RED 1 & 4 lb cans	RED ½ & ¼ lb cans	RED Total	PINK 1 & 4 lb cans	PINK ½ & ¼ lb cans	PINK Total
Alaska Packers Assn., Inc.	Chignik	20,386	13,458	33,844	14,149	5,447	19,596
	Cordova	38	217	255	12,150	4,604	16,754
Chugach Alaska Fisheries	Cordova	2,716	11,263	13,979	65,370	15,707	81,077
Columbia Wards Fisheries	Alitak		12,522	12,522	70,914	17,869	88,783
	Chignik Lagoon	11,612	4,762	16,374	16,050	4,861	20,911
	Kenai	2,522	5,289	7,811	5,292	10,160	15,452
	Kodiak	99		99	10,886		10,886
	Port Bailey	3,272	984	4,256	39,432	16,116	55,548
Icicle Seafoods, Inc.	All points*	34,427		34,427	149,096		149,096
Kodiak Island Seafoods, Inc.	Larsen Bay	15,831	13,234	29,065	85,675	15,847	101,522
Morpac, Inc.	Cordova	112	14,455	14,567	64,031	24,262	88,293
Peter Pan Seafoods, Inc.	False Pass	28,521	66,794	95,315	30,679	40,601	71,280
	King Cove	42,685	70,326	113,011	72,887	64,342	137,229
	Kodiak	1,013	631	1,644	34,418	6,755	41,173
Sea-Nik Foods	Ninilchik		102	102		64	64
Miscellaneous	Central Alaska	95,845	215,585	311,430	321,117	352,932	674,049
TOTAL	Central Alaska	259,079	429,622	688,701	992,146	579,567	1,571,713

1980 Southeast Alaska

COMPANY	LOCATION	RED 1 & 4 lb cans	RED ½ & ¼ lb cans	RED Total	PINK 1 & 4 lb cans	PINK ½ & ¼ lb cans	PINK Total
Annette Island Packing Co.	Metlakatla	1,626	1,106	2,732	64,075	15,073	79,148
Columbia Wards Fisheries	Craig	3,093		3,093	56,212		56,212
Excursion Inlet Packing Co.	Excursion Inlet	994	4,026	5,020	33,365	12,195	45,560
Harbor Seafoods Co., Inc.	Wrangell		1,023	1,023	8,074	2,598	10,672
Icicle Seafoods, Inc.	All points*	1,435		1,435	76,807		76,807
Peter Pan Seafoods, Inc.	Ketchikan	142	1,913	2,055	19,453	16,586	36,039
Petersburg Processors, Inc.	Petersburg	423	3,241	3,664	20,997	1,049	22,046
Wards Cove Packing Co., Inc.	Ketchikan		3,285	3,285	43,663	14,097	57,760
Miscellaneous	Southeast Alaska	2,005	20,880	22,885	197,930	74,832	272,762
TOTAL	Southeast Alaska	9,718	35,474	45,192	520,576	136,430	657,006

* Icicle Seafood's pack, reported to *Pacific Packers Report* for all points, has been divided between the Central and Southeast districts according to total pack percentage breakdowns for each species between the two districts.

Note: Miscellaneous pack represents unreported production by the following companies — Western: Egegik Packing Co., Queen Fisheries, Inc., and Whitney Fidalgo Seafoods; Central: Alaska Pacific Seafoods, Chignik Canning Co., Kenai Packers, Kodiak King Crab, Inc., North Pacific Processors, Ocean Beauty Alaska, Inc., St. Elias Ocean Products, and Whitney Fidalgo Seafoods; Southeast: Juneau Cold Storage Co., Nefco-Fidalgo Pkg. Co., Seaklawock, and Whitney Fidalgo Seafoods.

Source for total pack: National Food Processors Association

Canned Salmon Pack

CHUM			COHO			KING				
1 & 4 lb cans	½ & ¼ lb cans	Total	1 & 4 lb cans	½ & ¼ lb cans	Total	1 & 4 lb cans	½ & ¼ lb cans	Total	TOTAL	COMPANY
3,067		3,067				47		47	71,451	Alaska Packers Assn.
4,627		4,627	130		130	257		257	5,014	Bering Sea Fisheries
365	456	821	32		32	7	6	13	40,780	Bumble Bee Seafoods
15,049	328	15,377	294	1,354	1,648	245	29	274	114,183	Columbia Wards Fisheries
1,521	661	2,182	46		46	10	4	14	95,548	
	4,370	4,370		49	49				76,956	Diamond E Fisheries, Inc.
141	1,365	1,506				6	39	45	69,073	Nelbro Packing Co.
17,485	2,484	19,969	2,116		2,116				137,983	Pan Alaska Fisheries, Inc.
9,154	278	9,432	920		920	177	5	182	88,447	Peter Pan Seafoods, Inc.
365	456	821	32		32	7	6	13	40,780	Red Salmon Co.
7,078	4,961	12,039		77	77				35,269	Togiak Fisheries, Inc.
	10,933	10,933					5,964	5,964	16,897	The Village Cannery
9,865	3,038	12,903	48	1,638	1,686	237	158	306	112,486	Miscellaneous
68,717	29,330	98,047	3,618	3,118	6,736	993	6,122	7,115	904,867	TOTAL

Canned Salmon Pack

CHUM			COHO			KING				
1 & 4 lb cans	½ & ¼ lb cans	Total	1 & 4 lb cans	½ & ¼ lb cans	Total	1 & 4 lb cans	½ & ¼ lb cans	Total	TOTAL	COMPANY
12,724		12,724							66,164	Alaska Packers Assn., Inc.
2,739	343	3,082	1		1				20,092	
10,493	584	11,077	464	142	606				106,739	Chugach Alaska Fisheries
17,290	1,999	19,289							120,594	Columbia Wards Fisheries
5,870	256	6,126	1,321		1,321	10		10	44,742	
1,785	820	2,605	407	461	868				26,736	
1,282		1,282	333		333				12,600	
3,442	3,918	7,360	200	712	912	5		5	68,081	
14,489		14,489	3,127		3,127	230		230	201,369	Icicle Seafoods, Inc.
4,963	872	5,835	246	543	789		81	81	137,292	Kodiak Island Seafoods, Inc.
6,963	1,385	8,348	797	84	881				112,089	Morpac, Inc.
44,625	20,433	65,058	703	3,666	4,369	23	194	217	236,239	Peter Pan Seafoods, Inc.
42,125	5,693	47,818	294	4,707	5,001	22		22	303,081	
5,055		5,055	65		65				47,937	
	10	10		45	45		10	10	231	Sea-Nik Foods
54,116	26,881	80,997	5,622	4,859	10,481		346	286	1,077,243	Miscellaneous
227,961	63,194	291,155	13,580	15,219	28,799	230	631	861	2,581,229	TOTAL

Canned Salmon Pack

CHUM			COHO			KING				
1 & 4 lb cans	½ & ¼ lb cans	Total	1 & 4 lb cans	½ & ¼ lb cans	Total	1 & 4 lb cans	½ & ¼ lb cans	Total	TOTAL	COMPANY
3,274	593	3,867	557	253	810				86,557	Annette Island Packing Co.
2,704		2,704	470		470				62,479	Columbia Wards Fisheries
9,039		9,039	718	185	903	24		24	60,546	Excursion Inlet Packing Co.
578	549	1,127	20	154	174				12,996	Harbor Seafoods Co., Inc.
2,165		2,165	1,684		1,684	81		81	82,172	Icicle Seafoods, Inc.
3,972	249	4,221	479	3	482	16		16	42,813	Peter Pan Seafoods, Inc.
1,629		1,629	740	155	895				28,234	Petersburg Processors, Inc.
1,288	189	1,477	90	233	323				62,845	Wards Cove Packing Co., Inc.
10,187	4,801	14,988	2,593	2,997	5,590	67	40	107	316,332	Miscellaneous
34,836	6,381	41,217	7,351	3,980	11,331	188	40	228	754,974	TOTAL

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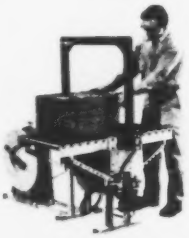
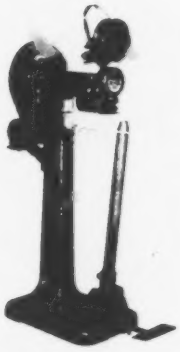
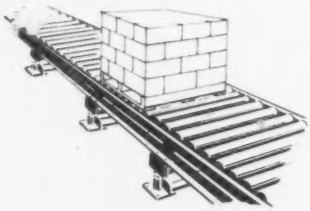


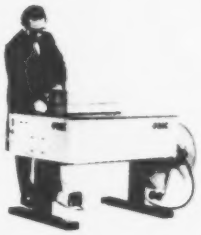
APM-200 Automatic Bottom Seal Bander, Air Operated — A wide range of yokes to fit many applications.



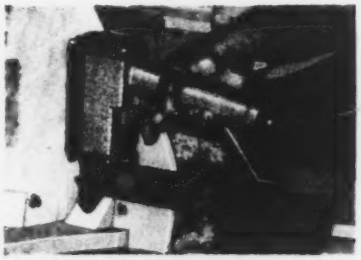
IB 1240 Ideal Stitcher to assemble cardboard boxes — a possible 400 staple per minute speed.



Rapistan Conveyors, gravity and power feed.



YSM Semi-Automatic Bander is replacing wire tie systems in many salmon roe and like operations.



KS 7648 Staple Gun adopted for salmon-on-roe boxes — faster and easier and better than hand nailing.

APM-2F — A Side Seal Bander, air operated, having many stainless steel components.

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P.O. BOX 2347	SOLDOTNA, AK 99669	262-9148

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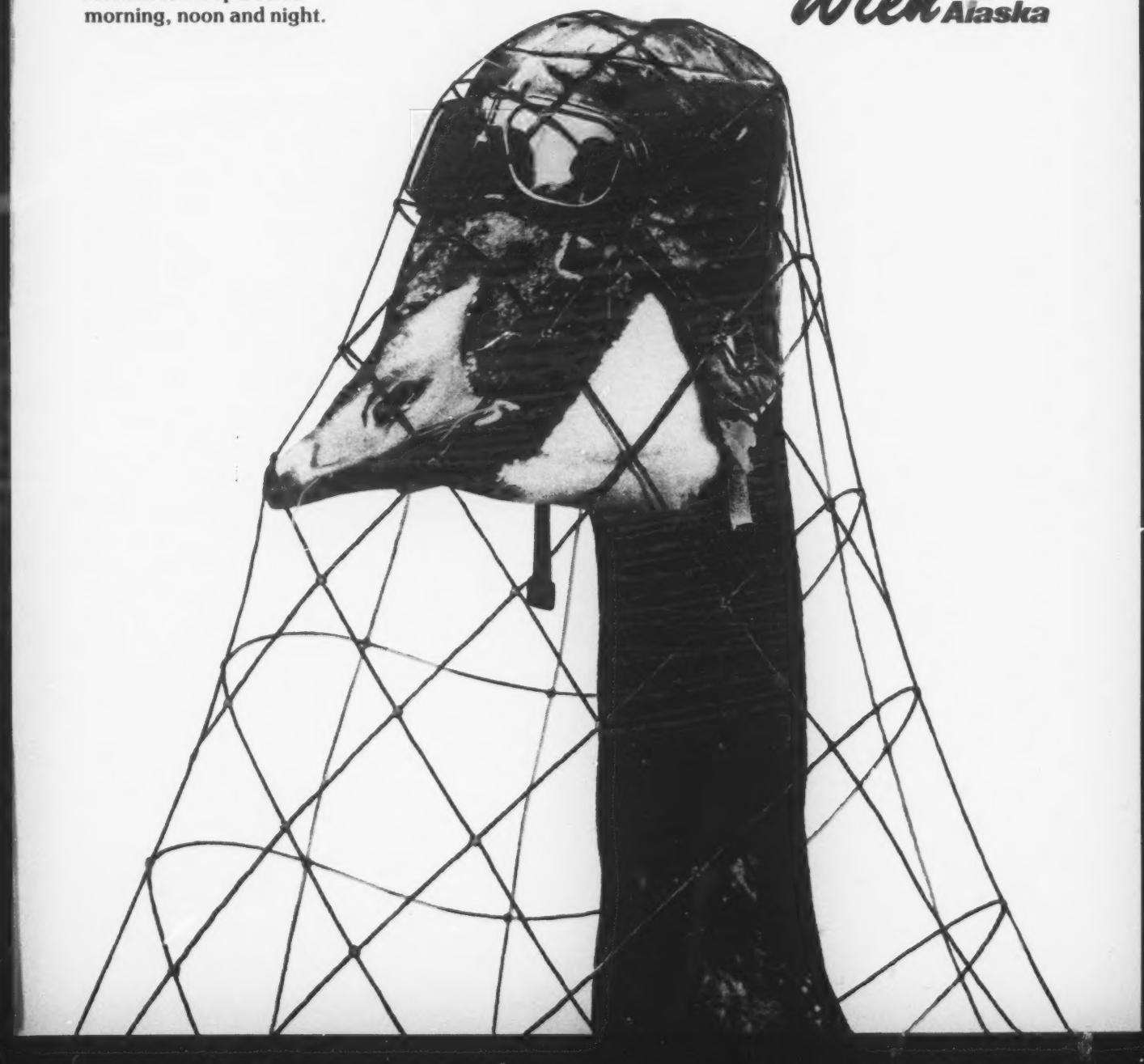

Pacific Canned Salmon Packs and Values by State

(48-LB CASE EQUIVALENTS)

	ALASKA		WASHINGTON		OREGON		U.S. TOTAL*		BRITISH COLUMBIA		GRAND TOTAL		
YEAR	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	YEAR
1940	5,028,378	31,828,451	222,808	2,825,000	297,716	4,129,220	5,548,902	38,782,681	1,467,227	427,923	7,016,129	50,209,908	1940
1941	6,906,503	57,466,702	491,311	6,162,000	399,840	5,925,444	7,798,799	69,567,646	2,248,870	18,406,545	10,047,849	87,974,191	1941
1942	5,089,109	48,677,509	366,065	6,909,000	397,331	6,890,162	5,852,515	62,476,671	1,811,560	20,050,238	7,664,075	82,526,909	1942
1943	5,396,509	58,579,194	149,175	2,309,000	130,707	2,857,246	5,677,158	63,761,440	1,258,221	11,673,469	6,935,379	75,434,909	1943
1944	4,877,796	51,608,544	81,490	1,774,000	159,783	3,445,244	5,119,943	56,843,448	1,097,558	11,479,093	6,652,646	68,322,541	1944
1945	4,338,692	44,528,964	414,258	4,845,000	155,292	3,287,812	4,913,335	52,699,776	1,739,311	18,409,962	6,217,521	71,109,738	1945
1946	3,971,109	58,667,561	385,437	13,020,000	206,563	7,165,645	5,568,149	79,006,206	1,348,138	17,532,462	5,916,287	96,538,668	1946
1947	4,302,466	91,297,885	957,429	21,420,000	338,852	11,133,690	5,612,644	124,364,575	1,505,157	24,900,000	7,117,379	149,264,575	1947
1948	4,010,612	100,694,614	484,102	12,685,858	314,556	10,956,513	4,820,687	124,703,080	1,308,137	26,579,000	6,128,824	151,282,080	1948
1949	4,391,051	81,262,468	973,740	17,481,782	158,472	4,665,290	5,524,376	103,430,780	1,436,464	27,654,489	6,960,840	131,085,269	1949
1950	3,272,643	81,403,511	670,341	18,285,000	176,063	6,193,000	4,119,047	105,881,511	1,482,560	30,155,177	5,602,056	183,885,502	1950
1951	3,534,315	77,201,463	906,252	21,357,974	175,091	6,631,198	4,615,658	105,190,635	1,955,475	46,261,080	6,571,133	151,451,715	1951
1952	3,574,191	76,357,016	749,591	17,122,352	140,565	4,784,421	4,455,022	99,636,808	1,293,435	27,751,435	5,741,490	127,388,243	1952
1953	2,934,667	60,987,334	838,422	18,680,750	127,808	4,063,675	3,911,333	83,747,184	1,821,269	35,060,600	5,732,602	118,807,784	1953
1954	3,207,154	66,139,617	973,941	25,727,[illegible]	92,291	[illegible]30,700	4,275,548	95,063,437	1,742,736	39,293,176	6,018,284	134,356,613	1954
1955	2,457,969	58,839,784	764,719	17,569,902	138,250	4,99[illegible]365	3,286,785	81,436,652	1,406,100	31,644,673	4,692,885	113,081,325	1955
1956	2,950,354	76,948,880	334,505	11,097,115	147,105	5,401,329	3,432,658	93,472,448	1,118,279	32,231,241	4,550,937	125,703,989	1956
1957	2,442,710	62,564,386	624,842	18,296,970	118,161	4,948,224	3,187,887	85,887,711	1,424,264	35,872,414	4,612,151	207,647,836	1957
1958	2,974,993	65,531,283	625,909	20,659,030	134,754	6,053,733	3,736,661	92,290,276	1,908,056	56,740,772	5,644,717	149,031,048	1958
1959	1,770,795	49,493,910	585,487	18,118,907	101,712	4,239,463	2,457,994	71,852,280	1,077,097	35,280,411	3,535,091	107,132,691	1959
1960	2,571,265	73,055,345	201,398	8,695,057	61,799	2,966,921	2,834,462	84,717,323	631,150	22,768,000	3,465,612	107,485,323	1960
1961	3,211,962	99,352,358	401,121	14,580,389	83,643	4,077,528	3,696,726	118,010,275	1,403,994	45,778,726	5,100,720	163,789,001	1961
1962	3,475,196	93,710,090	246,658	8,759,840	79,260	3,561,098	3,801,114	106,031,028	1,816,585	52,751,840	5,617,699	158,732,868	1962
1963	2,650,199	67,109,620	569,579	17,382,900	69,799	3,145,849	3,289,577	87,638,369	1,203,271	34,613,527	4,492,848	122,251,896	1963
1964	3,549,379	87,530,030	130,329	4,755,873	79,603	3,480,322	3,759,311	95,766,225	1,255,308	43,676,000	5,014,619	139,442,225	1964
1965	3,310,064	106,041,505	248,882	9,915,359	113,489	4,975,716	3,672,435	120,932,580	913,957	35,060,000	4,586,392	155,992,580	1965
1966	3,976,957	119,048,988	274,363	11,409,197	92,727	4,119,485	4,344,047	134,577,670	1,819,215	64,061,552	6,163,262	198,639,222	1966
1967	1,464,006	52,081,517	485,051	18,631,135	123,213	5,408,690	2,072,270	76,121,342	1,465,708	57,141,000	3,537,978	133,262,342	1967
1968	3,168,127	103,411,623	140,368	6,100,705	48,644	2,205,942	3,357,139	111,718,270	1,746,457	65,481,973	5,103,596	177,300,243	1968
1969	2,252,022	84,676,144	203,422	9,452,463	64,306	3,096,920	2,519,750	97,225,527	624,153	30,110,000	3,143,903	127,335,527	1969
1970	3,564,508	124,577,532	189,383	10,323,798	58,268	3,330,040	3,812,159	138,231,370	1,423,882	58,908,000	5,236,041	138,290,278	1970
1971	2,899,011	107,981,152	463,132	23,275,554	151,017	6,719,640	3,513,160	137,976,346	1,404,005	65,803,000	4,917,165	203,779,346	1971
1972	1,705,326	75,293,999	190,334	11,925,259	34,993	1,933,916	1,930,653	89,153,174	1,172,752	55,134,000	3,103,405	144,287,174	1972
1973	1,209,757	86,416,654	304,934	28,499,916	32,213	3,192,098	1,546,904	118,108,668	1,550,114	127,065,000	3,097,018	245,173,668	1973
1974	1,343,254	98,860,487	578,009	45,250,006	56,331	4,603,068	1,977,594	148,713,561	1,428,882	114,312,000	3,406,476	263,025,561	1974
1975	1,383,900	95,423,802	162,204	14,293,000	9,126	697,000	1,555,230	110,413,802	517,370	43,252,000	2,072,600	153,665,802	1975
1976	2,469,530	178,284,574	135,518	13,946,000	5,850	627,000	2,610,898	192,857,574	1,025,830	91,733,000	3,636,728	284,590,574	1976
1977	2,594,659	188,834,352	230,905	20,646,000	1,554	228,000	2,827,118	209,708,352	1,346,967	122,987,000	4,174,085	332,695,352	1977
1978	2,921,565	211,357,826	11,292	913,000	2,394	380,000	2,935,251	212,650,826	1,126,876	115,913,000	4,062,127	328,563,826	1978
1979	3,081,568	290,336,718	144,041	15,765,476	170	25,075	3,225,779	306,127,269	955,225	115,927,000	4,181,004	422,054,269	1979
1980	4,175,440	421,232,137	125,170	14,048,982	691	94,138	4,301,301	435,375,257	1,104,774	145,873,646	5,406,075	581,248,903	1980

*1941-1958 totals include small California pack.
Note: 1979 Alaska and 1980 data are preliminary.
Source: ADF&G, Department of Fisheries and Oceans of British Columbia, *Pacific Packers Report*.

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United States Canned Salmon Packs by Species

48-LB. CASES

YEAR	SOCKEYE	PINK	CHUM	COHO	KING	STEELHEAD	TOTAL	YEAR
1941	1,308,740	4,790,573	851,902	440,653	372,624	33,162	7,779,654	1941
1942	1,194,985	2,819,501	1,089,555	406,032	320,531	21,911	5,852,515	1942
1943	2,004,204	2,384,186	895,265	191,135	185,340	16,261	5,676,391	1943
1944	1,618,729	2,087,621	987,383	202,364	203,761	19,222	5,119,079	1944
1945	1,227,162	2,549,848	693,603	239,086	181,367	19,314	4,910,580	1945
1946	1,350,629	2,060,243	694,728	217,004	222,744	17,767	4,563,115	1946
1947	1,911,284	2,363,069	666,497	293,058	356,665	22,091	5,612,664	1947
1948	1,734,091	1,308,689	1,054,637	370,610	338,037	20,362	4,826,426	1948
1949	1,075,427	3,236,317	718,878	277,495	207,868	8,931	5,524,916	1949
1950	1,290,249	1,097,811	1,317,761	352,126	205,981	10,534	4,274,462	1950
1951	936,120	2,001,352	981,524	466,880	244,832	14,862	4,645,570	1951
1952	1,413,670	1,175,052	1,290,667	397,534	159,086	19,011	4,455,022	1952
1953	1,162,614	1,396,388	966,418	207,144	158,437	19,645	3,910,646	1953
1954	1,323,830	1,151,126	1,329,756	215,123	129,933	13,379	4,163,147	1954
1955	749,328	1,682,000	466,353	198,806	176,661	13,737	3,286,885	1955
1956	1,182,554	1,129,346	758,059	188,571	165,957	8,171	3,432,658	1956
1957	963,566	943,564	924,943	203,553	142,066	7,605	3,184,897	1957
1958	948,965	1,550,025	911,816	150,699	137,425	6,313	3,705,243	1958
1959	736,886	819,825	582,096	190,560	126,274	9,897	2,465,538	1959
1960	1,297,986	734,776	678,424	94,560	100,096	6,174	2,912,016	1960
1961	1,441,673	1,361,874	707,065	165,217	115,058	6,839	3,696,726	1961
1962	841,001	1,949,328	761,213	163,482	116,222	5,785	3,837,031	1962
1963	602,045	1,956,482	462,385	165,549	95,462	7,654	3,298,577	1963
1964	777,715	1,939,613	710,181	219,037	95,487	2,914	3,745,307	1964
1965	2,051,667	998,552	311,522	176,391	130,556	3,747	3,672,435	1965
1966	1,382,371	2,061,390	609,393	204,431	83,677	2,875	4,344,047	1966
1967	865,077	616,152	363,133	139,079	91,552	2,072	2,077,065	1967
1968	715,090	1,770,239	665,513	167,330	69,356	2,846	3,390,374	1968
1969	902,602	1,299,281	183,797	59,424	71,652	2,994	2,519,750	1969
1970	1,904,900	1,337,526	486,976	134,024	49,666	254	3,913,346	1970
1971	1,379,289	1,194,294	576,834	164,250	70,194	2,495	3,393,356	1971
1972	610,810	728,428	622,081	66,182	48,175	1,122	2,076,798	1972
1973	406,963	486,170	311,893	65,216	26,299	4,020	1,300,561	1972
1974	652,388	499,950	464,901	224,198	64,530	1,409	1,907,376	1974
1975	649,984	621,398	275,244	63,403	16,756	—	1,626,785	1975
1976	1,024,384	1,219,019	339,416	52,903	22,848	—	2,658,570	1976
1977	1,054,681	1,552,841	477,715	40,827	16,092	—	3,142,156	1977
1978	1,041,618	1,956,612	368,354	36,923	18,970	—	3,422,486	1978
1979	1,068,763	1,956,542	153,202	35,050	12,222	—	3,225,779	1979
1980	1,614,241	2,147,498	453,296	69,881	16,385	—	4,301,301	1980

Note: 1979 and 1980 data preliminary.

Source: ADF&G and National Food Processors Association

1980 Washington and Oregon Canned Salmon Packs

COMPANY	LOCATION	RED ½ lb cans	RED ¼ lb cans	Total	PINK All sizes	CHUM All sizes	COHO All sizes	KING All sizes	KING SMOKED All sizes	TOTAL
WASHINGTON										
Bumble Bee Seafoods	Bellingham	311	1,868	2,179		3	2,293	95		4,570
Kirkland Custom Cannery	Kirkland	107	17	124		60	88	40	531	967
Peter Pan Seafoods, Inc.	Bellingham	90	511	601			211	6		1,419
Swiftsure Fisheries	Seattle		69	69	304	2	98			473
J.J. Theodore Co., Inc.	Friday Harbor	41	92	133		205	337			808
Washington Crab Producers, Inc.	Westport		116	116						116
OREGON										
Bell Buoy Crab Co.	Seaside						37	129	135	301
Sportsmen's Cannery	Winchester Bay						156	46	21	223
Warrenton Deep Sea, Inc.	Warrenton						112	55		167

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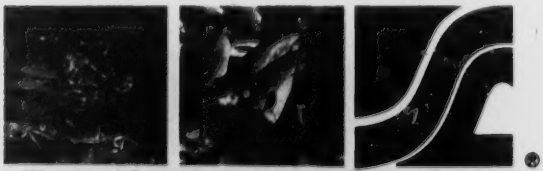
When you ship with Sea-Land, you can be sure that your seafood will arrive on the customer's table just as it left the plant—in perfect condition.

Because it's been handled with care.



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Circle number 69 on the Reader Inquiry Card

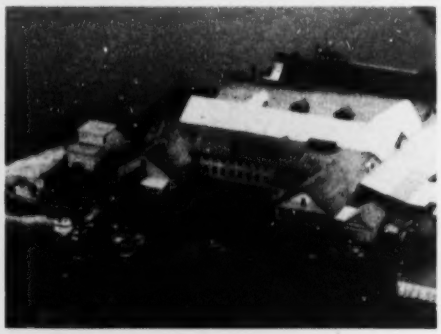
Alaska Canned Salmon Packs and Values by Species

(48-LB CASE EQUIVALENTS)

YEAR	RED		PINK		CHUM		COHO		KING		TOTAL		YEAR
	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	Cases	Value ($)	
1940	953,381	9,402,841	2,908,025	15,770,772	860,539	4,312,766	284,130	2,122,330	22,303	219,742	5,028,378	31,828,451	1940
1941	1,164,888	15,952,391	4,636,649	32,593,271	710,507	4,844,060	356,213	3,595,932	38,246	480,998	6,906,503	57,466,702	1941
1942	912,006	13,804,764	2,818,650	22,565,374	942,789	7,178,696	372,537	4,442,108	43,137	686,567	5,089,109	48,677,509	1942
1943	1,932,175	30,381,755	2,322,057	18,701,467	882,578	6,755,829	158,734	1,937,981	50,965	802,162	5,396,509	58,579,194	1943
1944	1,580,757	24,254,327	2,087,322	16,924,966	985,725	7,565,526	187,053	2,278,938	36,939	584,787	4,877,796	51,608,544	1944
1945	1,173,356	18,260,328	2,239,282	18,201,352	688,485	5,312,578	195,860	2,078,066	41,709	676,640	4,338,692	44,528,964	1945
1946	1,065,898	22,880,873	3,057,121	24,685,452	617,155	7,120,923	193,061	3,231,992	37,874	748,321	3,971,109	58,667,561	1946
1947	1,876,239	45,390,823	1,723,617	32,268,419	500,211	8,983,297	148,715	3,522,434	53,684	1,131,912	4,302,466	91,297,885	1947
1948	1,635,463	44,994,233	1,304,044	31,617,066	774,661	16,345,475	241,799	6,278,595	54,645	1,459,245	4,010,612	100,694,614	1948
1949	967,636	25,504,967	2,682,330	42,921,708	499,226	7,572,386	192,352	4,004,944	50,007	1,258,463	4,391,051	81,262,468	1949
1950	1,166,052	34,211,966	1,095,534	25,663,330	780,684	15,269,095	191,501	5,181,834	54,321	1,550,183	3,272,643	81,403,511	1950
1951	816,831	26,017,227	1,559,748	32,505,086	721,152	10,950,656	345,159	5,131,859	91,425	2,596,635	3,534,315	77,201,463	1951
1952	1,181,162	33,783,498	1,172,168	21,705,200	966,660	15,140,209	197,004	4,201,837	56,970	1,521,732	3,574,191	76,357,016	1952
1953	994,293	27,996,373	955,528	17,439,908	800,882	11,213,236	127,676	2,894,714	56,222	1,442,103	2,934,667	60,987,334	1953
1954	804,194	23,235,032	1,149,422	22,477,095	1,029,295	15,093,798	171,643	3,926,204	52,600	1,407,488	3,207,154	66,139,617	1954
1955	661,607	21,045,719	1,270,303	27,044,751	363,657	6,322,832	114,584	3,056,498	47,818	1,369,984	2,457,969	58,839,784	1955
1956	1,015,558	34,912,265	1,116,769	24,927,897	675,034	12,873,940	95,940	2,763,127	47,053	1,471,651	2,950,354	76,948,880	1956
1957	746,996	26,694,705	736,096	16,600,404	826,654	15,344,031	86,733	2,391,960	46,231	1,533,286	2,442,710	62,564,386	1957
1958	481,915	16,489,687	1,581,779	32,129,387	756,233	12,685,328	104,125	2,686,153	50,941	1,540,728	2,974,993	65,531,283	1958
1959	582,437	21,419,766	637,713	15,002,039	410,758	8,498,434	95,339	3,039,412	44,548	1,534,259	1,770,795	49,493,910	1959
1960	1,166,000	39,644,000	731,000	16,813,000	626,971	12,852,905	77,978	2,339,340	46,870	1,406,100	2,571,265	73,055,345	1960
1961	1,295,545	47,907,307	1,265,481	34,479,691	515,404	12,482,313	81,848	2,613,933	53,684	1,869,114	3,211,962	99,352,358	1961
1962	754,586	27,886,010	1,893,285	44,566,130	702,307	16,274,680	112,354	3,453,630	48,580	1,529,640	3,475,196	93,710,090	1962
1963	479,441	19,420,910	1,570,291	34,039,410	432,695	8,592,650	130,286	3,717,640	37,486	1,339,010	2,650,199	67,109,620	1963
1964	715,660	29,280,080	1,928,231	39,428,970	702,869	12,665,610	164,860	4,746,660	37,759	1,260,710	3,549,379	87,530,030	1964
1965	1,942,751	73,010,378	932,366	22,318,187	289,181	6,342,296	96,997	2,924,101	48,769	1,446,543	3,310,064	106,041,505	1965
1966	1,234,131	47,406,480	2,008,802	53,921,190	583,449	13,031,360	115,728	3,369,310	34,847	1,320,648	3,976,957	119,048,988	1966
1967	682,365	28,901,282	329,124	10,057,230	340,896	9,092,549	66,509	2,214,133	45,112	1,816,323	1,464,006	52,081,517	1967
1968	627,138	27,374,120	1,746,832	57,312,610	640,910	17,991,640	122,950	4,123,090	42,813	1,669,530	3,168,127	103,411,623	1968
1969	787,378	36,560,492	1,223,424	40,334,735	181,888	5,594,670	24,340	860,734	34,992	1,325,513	2,252,022	84,676,144	1969
1970	1,705,471	67,430,141	1,328,532	42,104,906	449,946	12,031,524	53,378	1,931,563	27,181	1,079,398	3,564,508	124,577,532	1970
1971	1,108,206	50,721,632	1,074,547	36,103,597	601,753	16,824,723	82,570	3,049,146	31,935	1,282,054	2,899,011	107,981,152	1971
1972	542,526	29,451,586	602,789	25,680,503	490,723	16,870,914	49,287	2,265,617	20,001	1,025,379	1,705,326	75,293,999	1972
1973	344,144	31,548,054	470,699	31,396,242	354,007	19,778,418	31,848	2,916,012	9,059	777,928	1,209,757	86,416,654	1973
1974	433,486	38,180,313	514,799	34,889,460	319,555	19,922,652	59,094	4,458,936	16,320	1,409,126	1,343,254	98,860,487	1974
1975	553,287	43,383,104	552,555	36,175,759	221,002	11,875,401	49,066	3,293,523	7,990	696,015	1,383,900	95,423,802	1975
1976	895,501	78,782,555	1,137,234	74,118,243	367,460	19,980,065	32,868	2,531,449	36,467	2,872,262	2,469,530	178,284,574	1976
1977	761,658	74,973,825	1,342,287	84,777,419	460,193	26,602,783	21,923	1,653,833	8,598	826,492	2,594,659	188,834,352	1977
1978	888,062	88,331,071	1,691,675	102,914,472	300,239	16,687,974	26,582	2,081,833	15,007	1,342,476	2,921,565	211,357,826	1978
1979	1,026,814	124,696,291	1,862,105	151,016,524	149,203	10,814,233	31,844	2,939,520	11,602	870,150	3,081,568	290,336,718	1979
1980	1,570,561	183,954,848	2,111,977	199,324,838	427,964	32,839,750	49,440	4,615,006	15,498	497,695	4,175,440	412,232,137	1980

Note: 1979 and 1980 data are preliminary.
Source: ADF&G and *Pacific Packers Report*.

ANNETTE ISLAND PACKING COMPANY



Fresh, Frozen, Smoked
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Black Cod
CANNED SALMON

There's a good reason for the popularity of Annette Island Packing Company products. Our plant is ideally located adjacent to the fishing grounds. Particular pride is taken in handling and processing. Quality is our reputation. We take this opportunity to thank our business associates, our fishermen, and our customers who contribute to the successes of our operation.

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Cold Storage Phone: 907-886-6944

BAIT & ICE

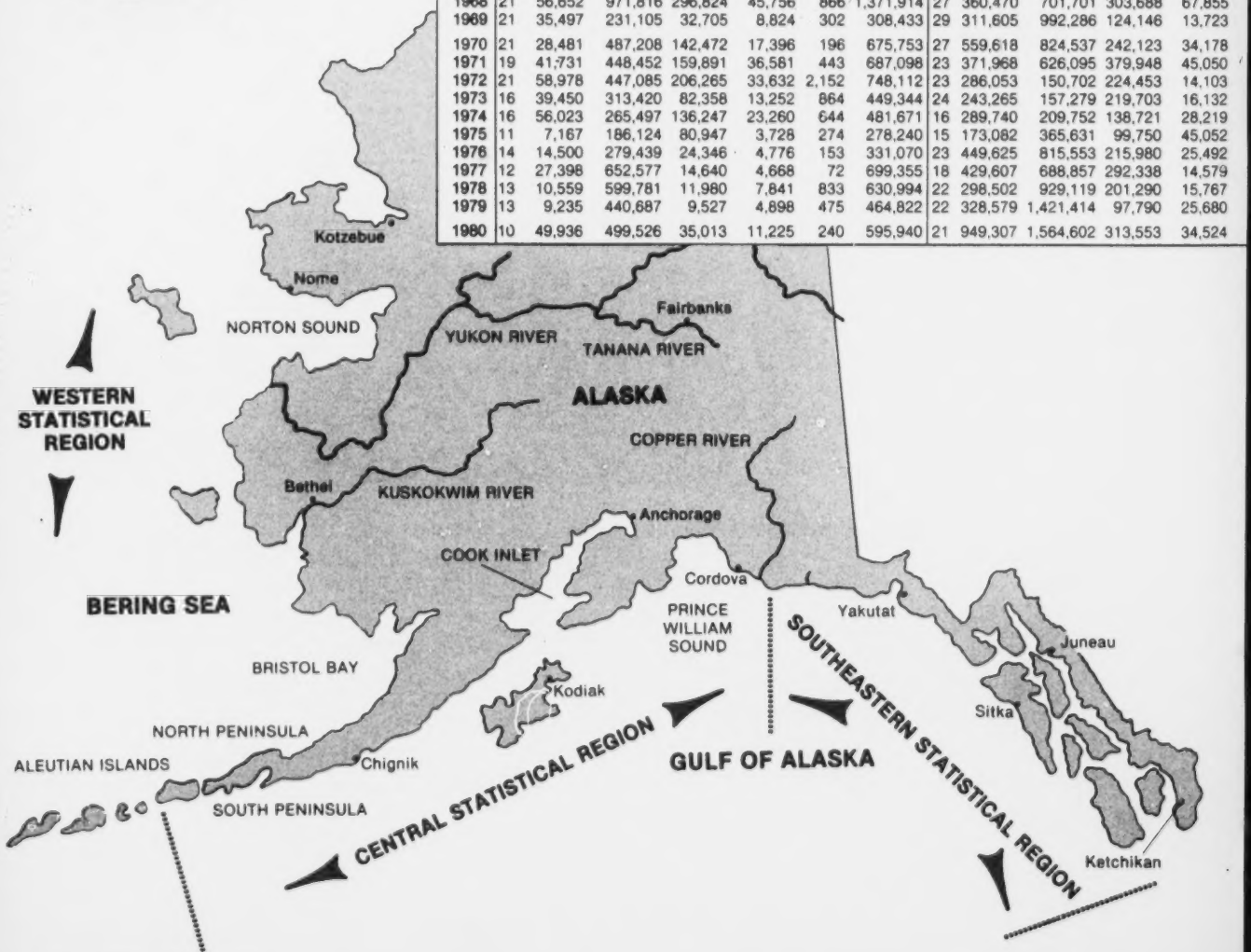
CORRESPONDENCE OFFICE:
4802 20th Avenue N.W.
Seattle, WA 98107
Phone: 206-782-8882

Alaska Canned Salmon Packs

(48-LB CASE EQUIVALENTS)

	SOUTHEAST ALASKA							CENTRAL ALASKA				
YEAR	Pl	Red	Pink	Chum	Coho	King	Total Cases	Pl	Red	Pink	Chum	Coho
1940	46	125,462	1,452,037	484,476	155,577	1,539	2,219,091	42	384,266	1,441,266	343,072	126,878
1941	47	137,861	3,631,491	321,118	193,751	1,812	4,286,033	44	413,658	1,005,029	333,618	159,022
1942	47	121,083	1,758,741	597,373	189,210	2,033	2,668,779	44	352,475	1,051,359	328,860	180,698
1943	34	85,313	1,042,610	672,359	92,245	1,868	1,894,395	34	582,287	1,277,915	167,909	66,311
1944	38	131,580	1,081,344	655,188	88,380	1,765	1,958,247	45	461,718	1,198,665	286,498	96,255
1945	41	129,414	1,039,521	265,845	107,425	2,582	1,544,887	43	434,872	1,002,056	331,654	85,506
1946	41	59,029	999,443	321,037	94,074	1,612	1,475,195	48	350,728	1,053,605	257,909	96,301
1947	40	56,032	680,693	260,666	72,434	4,019	1,073,844	47	470,056	1,034,475	196,731	74,388
1948	39	39,317	683,972	403,959	165,033	5,973	1,298,254	57	318,638	616,822	291,977	69,259
1949	36	39,475	2,102,604	243,080	125,059	1,046	2,511,274	55	391,244	580,438	221,089	59,409
1950	36	49,475	535,662	500,422	116,344	560	1,202,463	55	513,985	558,263	242,301	68,233
1951	42	70,317	1,226,582	466,334	262,393	636	2,028,262	59	362,554	333,091	227,632	72,762
1952	40	74,510	593,422	527,960	122,277	2,756	1,320,925	48	377,094	577,406	399,864	67,117
1953	35	120,971	355,580	418,260	90,489	1,571	986,871	40	330,933	604,291	333,390	36,730
1954	27	113,130	519,364	601,800	87,996	2,642	1,324,932	39	299,325	621,214	381,536	77,041
1955	26	55,561	547,765	177,690	64,814	1,157	846,987	44	233,290	722,448	162,999	47,294
1956	23	80,855	565,076	267,934	44,030	2,082	959,977	44	357,242	547,775	375,417	47,525
1957	23	82,511	404,221	362,715	53,373	1,358	904,178	36	179,586	331,873	432,797	28,282
1958	21	81,867	702,899	356,611	51,300	843	1,193,520	39	130,889	818,063	357,059	39,859
1959	17	61,702	472,684	162,948	60,013	1,374	758,721	27	161,251	162,229	203,000	35,185
1960	32	44,684	139,998	112,924	19,167	1,019	317,792	41	284,951	529,675	365,842	53,460
1961	25	66,132	831,576	278,572	47,309	463	1,224,052	35	302,972	425,723	193,168	32,577
1962	29	62,586	600,576	220,907	49,694	1,142	934,905	34	326,498	1,238,360	382,126	51,374
1963	30	52,018	959,147	149,175	55,192	401	1,215,933	39	208,978	609,235	231,016	69,304
1964	34	70,735	900,425	217,148	73,880	494	1,262,682	31	271,997	959,927	400,420	85,956
1965	25	74,900	486,000	130,100	73,300	600	764,900	31	405,900	394,300	139,600	28,400
1966	22	76,279	1,108,692	313,155	63,016	796	1,561,938	25	423,073	812,208	240,592	50,650
1967	20	64,084	164,962	175,814	25,488	207	431,155	25	283,504	164,154	119,099	37,878
1968	21	56,652	971,816	296,824	45,756	866	1,371,914	27	360,470	701,701	303,688	67,855
1969	21	35,497	231,105	32,705	8,824	302	308,433	29	311,605	992,286	124,146	13,723
1970	21	28,481	487,208	142,472	17,396	196	675,753	27	559,618	824,537	242,123	34,178
1971	19	41,731	448,452	159,891	36,581	443	687,098	23	371,968	626,095	379,948	45,050
1972	21	58,978	447,085	206,265	33,632	2,152	748,112	23	286,053	150,702	224,453	14,103
1973	16	39,450	313,420	82,358	13,252	864	449,344	24	243,265	157,279	219,703	16,132
1974	16	56,023	265,497	136,247	23,260	644	481,671	16	289,740	209,752	138,721	28,219
1975	11	7,167	186,124	80,947	3,728	274	278,240	15	173,082	365,631	99,750	45,052
1976	14	14,500	279,439	24,346	4,776	153	331,070	23	449,625	815,553	215,980	25,492
1977	12	27,398	652,577	14,640	4,668	72	699,355	18	429,607	688,857	292,338	14,579
1978	13	10,559	599,781	11,980	7,841	833	630,994	22	298,502	929,119	201,290	15,767
1979	13	9,235	440,687	9,527	4,898	475	464,822	22	328,579	1,421,414	97,790	25,680
1980	10	49,936	499,526	35,013	11,225	240	595,940	21	949,307	1,564,602	313,553	34,524

Alaska Department of Fish and Game Statistical Regions



by Districts and Species

(48-LB. CASE EQUIVALENTS)

		WESTERN ALASKA									
King	Total Cases	YEAR	PI	Red	Pink	Chum	Coho	King	Total Cases	PL	TOTAL CASES	YEAR
18,359	2,314,475	1940	11	443,653	14,088	32,991	1,675	2,405	494,812	99	5,028,378	1940
30,825	1,942,153	1941	19	613,369	129	55,771	3,439	5,609	678,317	105	6,906,503	1941
34,916	1,948,308	1942	7	438,111	8,550	16,556	2,629	6,178	472,024	98	5,089,109	1942
37,421	2,131,743	1943	14	1,314,575	1,532	42,410	178	11,676	1,370,371	81	5,396,509	1943
29,718	1,876,245	1944	13	987,459	3,932	44,039	2,418	5,456	1,043,304	94	4,877,796	1944
30,041	2,080,738	1945	8	609,132	1,623	92,551	3,103	9,086	715,495	92	4,338,692	1945
25,356	1,783,899	1946	20	656,141	4,073	38,209	2,686	10,906	712,015	108	3,971,109	1946
34,790	1,810,430	1947	21	1,350,151	8,449	42,914	1,893	14,885	1,418,192	107	4,302,466	1947
34,774	1,331,470	1948	24	1,277,508	3,250	78,725	7,507	13,989	1,308,888	120	4,010,612	1948
37,213	1,289,393	1949	21	529,859	—	44,140	4,411	11,974	590,384	112	4,391,051	1949
40,386	1,423,158	1950	21	509,048	1,609	35,056	6,924	13,375	647,012	112	3,272,643	1950
71,648	1,067,687	1951	13	339,592	75	25,521	8,003	15,328	388,519	114	3,534,315	1951
34,935	1,456,417	1952	21	729,560	1,339	38,836	7,692	19,359	796,786	109	3,574,191	1952
33,160	1,338,494	1953	19	530,186	1,108	45,398	2,703	20,810	600,205	94	2,934,667	1953
28,257	1,407,373	1954	12	393,201	9,835	42,890	6,228	22,695	474,849	78	3,207,154	1954
22,078	1,188,109	1955	12	372,756	90	22,968	2,476	24,583	422,873	79	2,457,969	1955
22,082	1,350,041	1956	11	577,461	3,198	31,683	4,385	22,889	639,616	78	2,950,354	1956
17,722	988,660	1957	13	484,499	2	31,142	5,078	29,150	549,871	72	2,442,710	1957
9,174	1,355,044	1958	17	269,159	60,817	42,563	12,966	40,924	426,429	71	2,974,993	1958
11,736	573,410	1959	9	361,550	32	49,378	3,091	32,157	446,208	53	1,770,795	1959
13,188	1,247,116	1960	35	854,807	12,055	103,569	3,073	32,853	1,006,357	108	2,571,265	1960
17,797	972,237	1961	31	926,441	—	51,828	1,980	35,424	1,015,673	91	3,211,962	1961
14,154	2,012,577	1962	32	361,226	39,553	88,687	5,252	32,996	527,714	95	3,475,196	1962
11,803	1,130,336	1963	24	218,445	1,909	52,504	5,790	25,282	303,930	93	2,650,199	1963
5,270	1,723,570	1964	22	372,928	67,879	85,301	5,024	31,995	563,127	87	3,549,379	1964
6,800	975,000	1965	26	1,464,300	—	31,500	400	42,300	1,538,500	82	3,310,064	1965
5,218	1,531,741	1966	22	737,948	95,071	31,658	3,251	28,818	896,746	69	3,990,425	1966
3,997	608,632	1967	19	334,177	8	45,963	3,143	40,908	424,219	64	1,464,006	1967
3,341	1,437,055	1968	18	209,694	73,004	32,972	4,318	39,170	359,158	66	3,168,127	1968
6,106	1,446,866	1969	19	440,276	33	26,037	1,793	28,584	496,723	69	2,252,022	1969
1,014	1,661,470	1970	19	1,117,372	16,787	65,351	1,804	25,971	1,227,285	67	3,564,508	1970
1,746	1,424,807	1971	14	694,507	—	61,914	939	29,746	787,106	56	2,899,011	1971
765	676,076	1972	17	197,495	5,002	60,005	1,552	17,084	281,138	67	1,705,326	1972
1,022	637,401	1973	13	61,429	—	51,946	2,464	7,173	123,012	56	1,209,757	1973
2,739	669,171	1974	7	87,723	39,550	44,587	7,615	12,937	192,412	39	1,343,254	1974
584	684,099	1975	11	373,038	800	40,305	286	7,132	421,561	37	1,383,900	1975
2,039	1,508,689	1976	18	431,376	42,242	127,134	2,600	34,275	637,627	55	2,477,386	1976
969	1,426,350	1977	12	304,653	853	153,215	2,676	7,557	468,954	42	2,594,659	1977
1,556	1,446,234	1978	15	579,001	162,775	86,969	2,974	12,618	844,337	50	2,921,565	1978
850	1,874,313	1979	15	689,000	4	41,886	1,266	10,277	742,433	50	3,081,568	1979
5,674	2,867,660	1980	14	571,318	47,849	79,398	3,691	9,584	711,840	45	4,175,440	1980

Source: ADFG
Note: 1979 and 1980 data are preliminary.

SALMON *(continued from page 7)*

level three years ago, frozen sockeyes should yield a higher price. The roller coaster effect of the Japanese market will take another swing.

Inventories worldwide are down, but most important, Japanese stocks of frozen sockeyes are down — 30 percent of what they were at the beginning of last year. Japan's fall run of chum salmon was down to 15 million fish compared to 18 million in 1979. Another large run of Bristol Bay sockeye is predicted and should be well received in the frozen form for at least the run's beginning.

With a 10 percent cut in the Southeast troll fishery, markets should be strong for fresh and frozen kings.

Domestic demand for fresh and frozen salmon is expanding, but still lags far behind the export market. Prices remain high causing consumers to purchase lower grades such as dark chums steaked up or frozen pinks. Another problem is acquainting the American consumer with the ups and downs and inconsistencies of Pacific salmon.

• Alaska's canned pack in 1980 of over four million cases was well received in the marketplace. Trends reversed from 1979 when the value of the frozen pack gained significantly over the previous year. Instead 1980's canned pack gained in value as pre-season supplies were low while the frozen pack faced a glut in inventories in 1980 from the previous year's stock. August exports of canned salmon were up 219 percent in quantity and 288 percent in value over August of 1979.

Processors reacted in 1980 by halting the gradual but decisive shift from canned to frozen salmon which has taken place over the past ten years. In 1978 and 1979 the frozen pack gained on the canned pack at a rate of seven percent each year compared to the previous season. In 1980, the division between the frozen and canned pack leveled off, remaining about the same as 1979. In 1980, 57 percent of the Alaska salmon harvest found its way to the can and 43 percent went to the freezer or smoker, or was sold fresh.

Red salmon showed the strongest reaction to the lapse in the frozen market. 54 percent of Alaska sockeyes were frozen in 1980, a three percent decrease from 1979. The decrease is significant considering that little sockeye was frozen as recently as 1972 (7 percent). The frozen sockeye pack quickly climbed to an all time high of 57 percent in 1979.

Prior to the 1980 run processors in Bristol Bay were reluctant to commit themselves to a frozen pack for the price the Japanese were offering. Last minute decisions increased the frozen pack, but few held onto the product for any length of time fearing a repeat of last year's fiasco in the frozen market. The lucky few who stored frozen salmon were rewarded by higher prices later in the season.

• 1980 Bristol Bay was billed as the largest run to hit the bay ever, certain to plug processors and challenge the industry's capacity to maintain quality. As 20 million harvestable salmon escaped into the rivers, fishermen and processors hammered away at price negotiations, finally settling at $.57 per pound. Prices in 1979 were $1.25 for fish destined for the freezers and $.88 per pound for those headed for cans.

Processors blamed the "Salmon Crash of '79" which left high inventories of unsold product and a sour taste with Japanese buyers. Fishermen called these inventories fictional as they voted down $.56 July 2, but accepted $.57 July 3. Two million more reds had escaped up the rivers of Bristol Bay.

Still Bristol Bay fishermen harvested 23.6 million sockeye, two million more than 1979 and the largest catch since 1965. Exceptionally high escapement should produce good returns of sockeye in 1984 and 1985.

Had price disputes not hampered fishing effort throughout the state, 1980 might have set a record in Alaska's documented salmon history. Total salmon harvest was 110.3 million fish, third place behind the "silver years" of 1934 and 1936 which were not as closely regulated as is the present industry. All time records were set by chum fishermen on the Kuskokwim and chinook fishermen on the Lower Yukon.

• Pink salmon harvests throughout the state were excellent, normally the case for an even year. Harvests will suffer in 1981 but 1980's run should produce good parent stock for 1982.

Only chinook landings decreased from 1979 levels. The season in the northern regions began with limited markets and low prices, but with the end of the Bristol Bay season markets opened up and prices rose.

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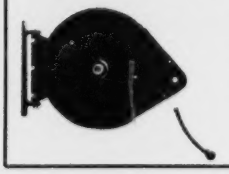

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Alaska Fresh, Frozen and Cured Salmon Packs

(THOUSANDS OF POUNDS)

DISTRICT	KING	RED	COHO	PINK	CHUM	TOTAL
Ketchikan						
1975	1,303.9	139.3	885.3	586.9	1,487.2	4,402.6
1976	959.0	257.6	998.4	1,297.4	1,975.6	5,488.0
1977	707.0	798.0	1,367.3	2,047.1	1,373.2	6,292.7
1978	1,439.1	1,018.3	2,497.2	3,442.6	2,320.9	10,700.1
1979	1,349.9	1,010.2	2,034.2	2,904.1	1,008.1	8,306.5
1980	520.0	873.2	1,459.5	2,887.9	2,127.6	7,868.2
Petersburg/Wrangell						
1975	494.5	349.6	453.3	134.6	887.6	2,301.6
1976	705.6	754.6	1,043.8	235.9	1,891.4	4,631.5
1977	391.8	1,985.6	1,637.9	954.2	2,088.6	7,058.0
1978	402.7	1,251.3	1,702.7	1,771.8	1,614.6	6,743.1
1979	1,066.0	1,462.1	920.9	1,950.0	1,282.0	6,681.0
1980	490.7	1,302.0	1,040.6	871.8	4,211.0	7,816.1
Juneau/Sitka/Yakutat						
1975	1,684.7	1,639.0	547.4	636.4	256.1	4,763.7
1976	1,673.6	2,739.7	2,969.9	461.9	1,360.6	9,205.7
1977	2,256.2	1,634.0	3,468.6	2,184.6	1,421.5	10,964.9
1978	4,486.7	1,655.5	5,278.5	1,269.1	670.8	13,360.6
1979	3,247.3	3,597.8	3,168.3	3,762.5	1,491.9	15,267.8
1980	1,535.7	613.8	1,758.5	1,224.1	2,151.1	7,283.2
Prince William Sound						
1975	293.7	547.6	592.6		37.8	1,471.7
1976	886.3	2,705.2	940.7	2,003.2	1,295.2	7,830.6
1977	356.6	2,740.9	841.5	1,232.3	931.9	6,103.0
1978	578.5	2,364.5	1,662.6	190.4	683.6	5,479.6
1979	302.3	1,466.9	1,782.3	1,769.2	305.3	5,626.0
1980	176.1	347.0	759.1	76.9	432.4	1,791.5
Cook Inlet						
1975	272.0	1,483.7	816.4	481.4	5,922.5	8,976.0
1976	512.9	4,032.7	492.4	1,818.4	3,140.3	9,996.7
1977	836.8	8,261.2	583.3	576.0	5,015.3	15,272.7
1978	1,463.9	20,244.1	1,476.1	5,533.0	7,533.8	36,250.9
1979	411.0	9,227.8	1,136.4	940.7	3,663.2	15,379.1
1980	729.6	13,523.4	1,780.1	4,272.8	3,947.0	24,252.9
Kodiak						
1975	0.2	98.6	13.2	545.5	58.5	716.0
1976	11.3	143.1	9.4	665.7	337.1	1,166.6
1977	9.1	3,664.2	11.4	576.6	302.8	4,564.2
1978	9.7	4,350.0	238.9	316.2	857.8	5,772.6
1979	9.2	3,763.1	199.2	3,908.4	991.9	8,871.8
1980	13.5	404.8	299.6	694.7	1,573.0	2,985.6
Chignik						
1975		6.1				6.1
1976						
1977		4,252.6	41.1	2.0	1.2	4,296.2
1978	24.5	6,042.8	53.4	423.8	332.9	6,877.4
1979	5.0	4,000.0	100.0	800.0	200.0	5,105.0
1980	10.8	2,413.2	14.8	455.3	50.0	2,944.1
Alaska Peninsula						
1975	16.4	226.1	59.1	0.1	69.8	371.5
1976	64.7	440.9	71.8	4.3	210.5	792.2
1977	86.2	339.0	39.0	1.7	82.3	548.1
1978	123.9	2,337.4	252.2	190.3	740.5	3,644.3
1979	0.3	7,970.0	1,785.0	8,400.0	2,140.0	20,295.3
1980	290.0	2,333.0	700.0	12,809.9	2,630.0	18,762.9
Bristol Bay						
1975	357.7	4,452.4	510.5	0.1	240.3	5,579.0
1976	1,196.6	975.9	886.3	52.2	211.8	3,322.8
1977	2,242.1	3,698.7	242.3	1.8	1,163.5	7,348.4
1978	3,473.9	8,983.0	76.5	1,343.1	2,036.8	16,004.3
1979	3,700.0	51,800.0	800.0	4.0	2,000.0	58,304.0
1980	1,472.7	93,344.9	1,967.4	3,578.3	2,239.5	102,602.8
Arctic/Yukon/Kuskokwim						
1975	1,386.3	108.2	731.1	123.1	12,396.9	14,745.8
1976	2,030.6	19.9	734.3	247.5	5,112.0	8,144.3
1977	3,259.2	157.4	2,112.5	164.6	8,531.2	14,225.0
1978	1,801.1	87.8	1,737.8	1,396.8	11,664.0	16,586.6
1979	998.0	265.0	2,056.0	2.2	2,053.5	5,374.7
1980	3,737.9	217.7	1,854.9	620.3	12,565.9	18,996.7
All Alaska						
1975	**5,827.4**	**9,050.6**	**4,590.9**	**2,508.4**	**21,356.7**	**43,334.0**
1976	**8,040.8**	**12,069.6**	**8,147.0**	**6,786.5**	**15,534.5**	**50,578.4**
1977	**10,145.0**	**27,531.7**	**10,345.1**	**7,740.8**	**20,911.4**	**76,673.9**
1978	**13,804.0**	**48,334.7**	**14,856.8**	**15,968.1**	**28,455.7**	**121,419.2**
1979	**11,089.0**	**84,562.9**	**13,982.3**	**24,441.1**	**15,135.9**	**149,211.2**
1980	**8,977.0**	**115,373.0**	**11,634.5**	**27,492.0**	**31,927.5**	**195,404.0**

Source: ADF&G
Note: 1980 data are preliminary.

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Alaska Canned and Frozen Salmon Production by Species

(THOUSANDS OF POUNDS)

YEAR	RED		PINK		CHUM		COHO		KING		TOTAL		YEAR
	Canned	Frozen	Canned	Frozen	Canned	Frozen	Canned	Frozen	Canned	Frozen	Canned	Frozen	
1971	77,560	7,317	81,624	1,666	46,956	11,111	6,308	4,661	2,3331	10,560	214,779	35,315	1971
1972	37,940	2,835	45,828	2,207	38,298	14,772	3,745	8,509	1,460	9,134	127,271	37,457	1972
1973	24,080	8,930	35,796	2,460	27,612	26,850	2,420	9,338	661	10,258	90,569	57,836	1973
1974	30,310	4,126	39,140	4,503	24,960	21,828	4,491	10,044	1,191	9,423	100,092	49,924	1974
1975	38,710	10,407	42,028	2,884	17,238	24,559	3,729	5,279	583	6,701	102,288	49,830	1975
1976	62,650	13,879	86,412	7,804	28,626	17,864	2,497	9,369	2,662	9,246	182,847	58,162	1976
1977	68,880	31,661	108,300	8,901	36,426	24,047	1,736	11,896	702	11,667	216,044	88,1 _	1977
1978	72,660	55,584	148,428	18,363	28,470	32,723	2,706	17,084	1,259	15,875	253,523	139,629	1978
1979	71,890	97,246	141,512	28,107	11,622	17,405	2,420	16,079	847	12,752	228,291	171,589	1979
1980	109,900	132,679	160,512	31,616	33,384	36,716	3,757	13,379	1,124	10,323	308,677	224,713	1980

Note: Conversions to round weight are as follows: Red, 70 lbs./case; Pink, 76 lbs./case; Chum, 78 lbs./case, Coho, 76 lbs./case; King, 73 lbs./case. Fresh, frozen, and cured pack, 1.15 lbs./lbs. packed.

Source: *Pacific Packers Report.*

Percentage Salmon Canned Versus Percentage Salmon Frozen in Alaska

YEAR	RED		PINK		CHUM		COHO		KING		TOTAL		YEAR
	% Canned	% Frozen	% Canned	% Frozen	% Canned	% Frozen	% Canned	% Frozen	% Canned	% Frozen	% Canned	% Frozen	
1971	91.38	8.62	98.00	2.00	80.87	19.13	57.51	42.49	18.08	81.92	85.88	14.12	1971
1972	93.05	6.95	95.41	4.59	72.17	27.83	30.56	69.44	13.78	86.22	77.26	22.74	1972
1973	72.95	27.05	93.57	6.43	50.70	49.30	20.58	79.42	6.05	93.95	61.03	38.97	1973
1974	88.02	11.98	89.68	10.32	53.35	46.65	30.90	69.10	11.22	88.78	66.72	33.28	1974
1975	78.81	21.19	93.58	6.42	41.25	58.75	4.83	95.17	8.00	92.00	67.25	32.75	1975
1976	81.87	18.13	91.72	8.28	61.57	38.43	21.04	78.96	22.35	77.65	75.87	24.13	1976
1977	68.51	31.49	92.41	7.59	60.24	39.76	12.73	87.27	5.68	94.32	71.02	28.98	1977
1978	56.66	43.34	89.00	11.00	46.52	53.48	13.67	86.33	7.35	92.65	64.49	35.51	1978
1979	42.51	57.49	83.43	16.57	40.04	59.96	13.08	86.92	6.23	93.77	57.09	42.91	1979
1980	45.31	54.69	83.54	16.46	47.62	52.38	21.92	78.08	9.82	90.18	57.87	42.13	1980

Source: *Pacific Packers Report*

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(RAW POUNDS)

COMPANY	LOCATION	SALMON	TROLL CAUGHT SALMON	SALMON ROE
ALASKA				
Alaska Far East Corp.	Naknek	1,225,000		22,500
Alaska Fish & Crab, Inc.	Naknek	1,000,000		20,000
Alaska Gourmet, Inc.	Anchorage	800,000		
Alaska Packers Assn., Inc.	Chignik	228,521		189,809
	Cordova	107,268		66,903
	Kodiak	103,579		4,720
	South Naknek			132,235
American Eagle Seafoods, Inc.	M/V Aleutian Dragon	555,000		
Annette Island Packing Co.	Metlakatla	916,093	274,475	257,133
Bering Sea Fisheries	Yukon River	890,533		22,000
Bumble Bee Seafoods	South Naknek	430,072		
Chugach Alaska Fisheries	Cordova	126,583		214,436
Columbia Wards Fisheries	Alitak	283,632		
	Ekuk	846,839		
	Kenai	1,403,521		
	Port Bailey	109,157		
Diamond E Fisheries	Egegik	411,750		140,855
Dutch Harbor Seafoods, Ltd.	Dutch Harbor	324,160	445,300	12,210
Excursion Inlet Packing Co.	Excursion Inlet	1,822,581	368,370	118,932
Halibut Producers Co-operative	Sitka & Bellingham,WA	413,404	2,452,585	37,180
Harbor Seafoods, Inc.	Wrangell	1,584,886	174,113	90,838
Icicle Seafoods, Inc.	All points	19,587,000	2,370,000	1,472,141
Kachemak Seafoods, Inc.	Togiak	1,408,954		68,329
Morpac, Inc.	Cordova	507,933		353,358
Nelbro Packing Co.	Naknek	38,696		130,414
Northern Products Corp.	Various	1,675,174	1,021,984	12,801
Pan Alaska Fisheries	All points	11,789,426		350,099
Pelican Cold Storage Co.	Pelican & Port Alexander	1,036,432	2,197,143	37,471
Peter Pan Seafoods, Inc.	Dillingham	156,806*		200,204
	False Pass			461,257
	King Cove	2,586,399*		842,904
	Ketchikan			127,903
	Kodiak			169,991
	Port Moller	5,075,977*		169,269
	Sandpoint	153,401		5,214
Petersburg Processors, Inc.	Petersburg	550,000		
Red Salmon Company	Naknek	430,072		
Sea-Nik Foods	Ninilchik	294,880		14,335
Sterling Seafoods, Inc.	M/V Pavlof & M/V Pengwin	1,250,000		37,500
Suisan International	Anchorage	81,572		
Swiftsure Fisheries Inc.	Anchorage	1,879,613		
The Village Cannery	Mountain Village	35,211		39,171
Togiak Fisheries	Togiak			183,000
Ultra Alaska Associates	Barge in Nushagak	2,928,070		89,646
Ursin Seafoods, Inc.	Kodiak	75,000		
Western Alaska Fisheries	Kodiak	319,945		
TOTAL ALASKA		65,443,140	9,515,764	6,094,758
BRITISH COLUMBIA				
Prince Rupert Fishermen's Co-op. Assn.	Fairview	2,836,012	1,539,848	
Tonquin Enterprises Ltd.	Vancouver		304,000	
TOTAL BRITISH COLUMBIA		2,836,012	1,843,848	
WASHINGTON				
Bumble Bee Seafoods	Bellingham	258,922		24,331
Chinook Packing Co.	Chinook	200,000	45,000	
Guilford Packing Co., Inc.	Port Townsend	169,681		7,856
Harbor Bell, Inc.	Bay Center	55,401		
Independent Fishermen's Packing Co.	Anacortes	1,500,000		74,000
Jessie's Ilwaco Fish Co.	Ilwaco	1,000,000	200,000	
Peter Pan Seafoods, Inc.	Bellingham	752,328		36,954
Sea K Fish Co., Inc.	Blaine	200,000	167,756	
Seawest Industries, Inc.	Bellingham	947,410		
Swinomish Indian Fish Co	La Conner	91,000		
J.J. Theodore Co., Inc.	Friday Harbor	372,939		16,304
Washington Crab Producers, Inc.	Westport	1,000,000		
TOTAL WASHINGTON		5,597,681	412,756	159,445
OREGON				
Alaska Packers Association, Inc.	Hammond	641,534		111
Bell Buoy Crab Co.	Seaside	26,000	500	1,500
Bumble Bee Seafoods	Astoria & Newport	514,552	84,806	28,160
Sportmen's Cannery	Winchester Bay			200
TOTAL OREGON		1,182,086	85,306	29,971
CALIFORNIA				
California Shellfish Co., Inc.	Santa Rosa		2,000,000	
Eureka Fisheries, Inc.	Fields Landing		1,000,000	
Long Beach Seafoods Co.	Long Beach	112,071		
Meredith Fish Co.	Sacramento		1,000,000	
TOTAL CALIFORNIA		112,071	4,000,000	

(Continued next column)

*Includes salmon processed for fresh market.

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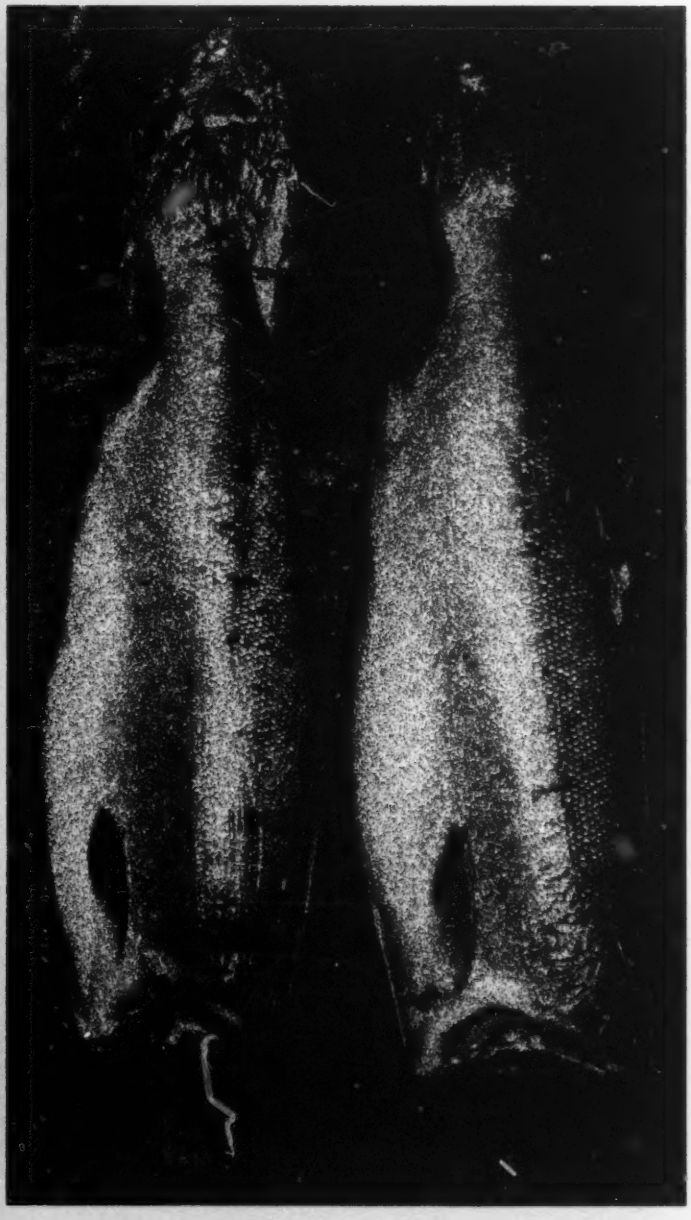

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Circle number 19 on the Reader Inquiry Card

1980 Alaska Salmon Landings

(THOUSANDS OF FISH)

MANAGEMENT AREA	KING	RED	COHO	PINK	CHUM	TOTAL
SOUTHEASTERN REGION						
Southern Southeast						
Portland Canal gill net	1.6	124.6	22.7	866.9	193.9	1,209.7
Prince of Wales Island gill net	.6	107.4	16.6	45.6	26.3	196.5
Stikine River gill net	.6	14.1	2.9	7.2	6.9	31.7
Southern districts seine	12.0	487.9	181.4	11,422.5	611.4	12,715.2
Annette Island trap	.6	8.4	2.8	454.0	2.5	468.3
Southern Southeast Total	15.4	742.4	226.4	12,796.2	841.0	14,621.4
Northern Southeast						
Taku-Snettisham gill net	2.4	123.1	41.5	295.6	192.8	655.4
Lynn Canal gill net	.4	53.2	28.8	81.8	168.9	333.1
Yakutat gill net	2.8	159.2	119.6	142.0	20.2	443.8
Northern districts seine	.5	39.6	12.9	899.8	415.7	1,368.5
Northern Southeast Total	6.1	375.1	202.8	1,419.2	797.6	2,800.8
Southeastern Region troll	299.1	2.9	706.5	267.5	12.2	1,288.2
Southeastern Region Total	320.6	1,120.4	1,135.7	14,482.9	1,650.8	18,710.4
CENTRAL REGION						
Bristol Bay						
Naknek and Kvichak districts	8.7	15,404.4	7.4	266.6	210.7	15,897.8
Nushagak District	64.3	4,403.7	148.2	2,310.7	782.0	7,708.9
Egegik District	4.9	2,406.1	19.8	2.6	71.2	2,504.6
Ugashik District	5.4	852.0	2.5		34.2	894.1
Togiak District	12.4	607.9	123.6	69.7	308.3	1,121.9
Bristol Bay Total	95.7	23,674.1	301.5	2,649.6	1,406.4	28,127.3
Cook Inlet Area						
Upper Cook Inlet						
Northern District	1.1	111.2	102.8	499.3	18.5	732.9
Central District	11.4	1,473.2	180.8	1,371.8	368.6	3,405.8
Upper Cook Inlet Total	12.5	1,584.4	283.6	1,871.1	387.1	4,138.7
Lower Cook Inlet						
Southern District	.4	41.6	10.1	480.6	4.4	537.1
Kamishak District		2.2	2.0	127.7	41.8	173.7
Outer District		22.6	.1	129.7	27.9	180.3
Eastern District			.4	156.8	.8	158.0
Lower Cook Inlet Total	.4	66.4	12.6	894.8	74.9	1,049.1
Cook Inlet Area Total	12.9	1,650.8	296.2	2,765.9	462.0	5,187.8
Cordova Area						
Copper River	8.4	18.5	212.5	3.9		243.3
Bering River			108.5			108.5
Prince William Sound	.3	211.7	4.0	14,219.1	477.7	14,912.8
Cordova Area Total	8.7	230.2	325.0	14,223.0	477.7	15,264.6
Central Region Total	117.3	25,555.1	922.7	19,638.5	2,346.1	48,579.2
ARCTIC-YUKON-KUSKOKWIM REGION						
Kuskokwim Area	48.3	42.1	314.0	29.6	548.1	982.1
Yukon River						
Lower Yukon River	143.9		7.5		950.4	1,101.8
Upper Yukon River	9.0		1.2		407.9	418.1
Yukon River Total	152.9		8.7		1,358.3	1,519.9
Norton Sound	6.3	0.0	30.2	226.7	182.4	445.6
Kotzebue Area					367.3	367.3
Arctic-Yukon-Kuskokwim Total	207.5	42.1	352.9	256.3	2,456.1	3,314.9
WESTWARD REGION						
Kodiak Island	.5	651.4	140.3	17,290.5	1,075.4	19,158.1
Alaska Peninsula						
Chignik	2.2	848.6	119.2	1,047.0	309.0	2,326.0
South Peninsula	5.0	3,588.0	272.0	7,816.0	1,346.0	13,027.0
North Peninsula	17.0	1,395.0	127.0	303.0	699.0	2,541.0
Aleutian Islands		9.2		2,611.9	4.9	2,626.0
Alaska Peninsula Total	24.2	5,840.8	518.2	11,777.9	2,358.9	20,520.0
Westward Region Total	24.7	6,492.2	658.5	29,068.4	3,434.3	39,678.1
ALASKA TOTAL	670.1	33,209.8	3,069.8	63,446.1	9,887.3	110,283.1

Note: Preliminary data
Source: ADF&G

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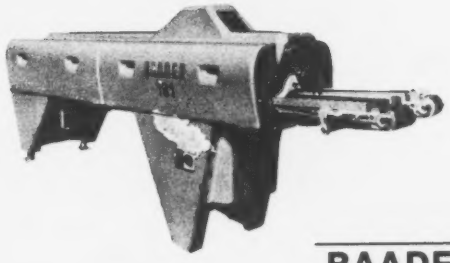

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Pacific Salmon Landings

(THOUSANDS OF FISH)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Alaska										
Chinook	662	553	550	558	455	532	463	800	810	670
Sockeye	14,180	6,590	4,490	4,878	7,455	11,783	11,908	17,773	28,366	33,210
Coho	1,448	1,831	1,457	1,861	1,014	1,432	1,319	2,295	3,053	3,070
Pink	23,528	15,920	9,802	9,859	12,984	24,750	25,880	51,492	48,549	63,446
Chum	7,679	7,065	6,020	4,729	4,322	5,924	6,835	6,335	5,780	9,887
TOTAL	47,497	31,959	22,319	21,879	26,229	44,423	46,405	78,695	86,559	110,283
Washington										
Chinook	522	473	663	572	588	554	573	470	378	441
Sockeye	3,073	1,161	2,687	2,511	1,691	1,334	1,869	1,394	1,690	577
Coho	937	779	1,126	1,275	1,175	900	1,062	985	952	1,468
Pink	2,478	—	2,363	—	1,330	—	2,034	—	3,933	—
Chum	182	894	607	463	215	823	471	1,290	126	875
TOTAL	7,192	3,307	7,446	4,621	4,999	3,611	6,009	4,139	7,079	3,361
Oregon										
Chinook	103	127	363	224	225	184	340	192	245	209
Coho	1,490	825	796	1,137	657	1,827	446	612	715	384
TOTAL	1,593	952	1,159	1,361	882	2,011	786	804	960	593
California										
Chinook	434	492	817	492	579	540	563	519	659	575
Coho	442	158	348	656	204	622	35	238	164	50
TOTAL	876	650	1,165	1,148	783	1,162	598	757	823	625

Note: 1980 data are preliminary.
Source: State Fisheries Agencies

1980 Washington Salmon Landings

(THOUSANDS OF POUNDS)

GEAR TYPE AND AREA	CHINOOK	CHUM	PINK	COHO	SOCKEYE
Purse Seine, Puget Sound	632.6	2,488.7		1,914.7	753.6
Gill Net					
Grays Harbor	463.5	306.9		224.3	
Willapa Bay	99.4	98.3		86.5	
Columbia River	1,104.1	1.1		378.8	
Puget Sound	702.3	2,856.5	.2	1,651.5	745.5
Troll, Ocean	1,482.9		7.6	1,815.9	
Indian					
Ocean	65.4	.1	.4	114.6	
Olympic Peninsula	232.6	177.4		436.1	71.4
Columbia River	447.8			3.7	
Puget Sound	2,222.7	4,439.8	2.9	5,671.1	1,480.1
All Gears Combined					
Ocean	1,548.3	.1	8.0	1,930.5	
Olympic Peninsula	232.6	177.4		436.1	71.4
Grays Harbor	463.5	306.9		224.3	
Willapa Bay	211.0	266.1		315.7	
Columbia River	1,551.9	1.1		382.5	
Puget Sound	3,568.4	9,803.4	3.1	9,278.0	3,051.2
WASHINGTON TOTAL	7,575.6	10,555.0	11.1	12,567.2	3,122.6

Note: 1980 data are preliminary.
Source: Washington Dept. of Fisheries

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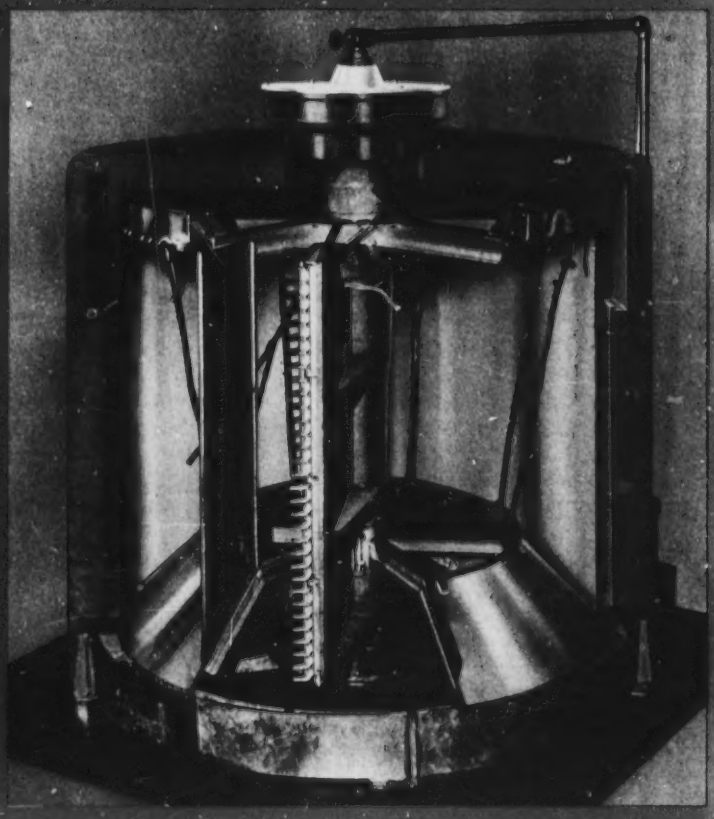

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Bristol Bay
Inshore Red Salmon Runs

(EXCLUSIVE OF JAPANESE AND KOREAN HIGH-SEAS CATCH)
FIGURES IN MILLIONS OF FISH

DISTRICT	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
Naknek-Kvichak	10.3	6.5	5.0	14.6	32.8	9.4	3.0	8	6.49	18.3	5.9	4.6	10.1	27.9	40.6
Egegik	2.9	1.7	1.0	1.9	2.3	1.9	1.2	5	1.44	2.1	1.8	2.4	2.0	3.3	3.7
Ugashik	1.1	4	.2	.3	.9	1.5	1	04	06	4	5	3	1	2.1	4.2
Nushagak	2.7	1.4	1.7	2.0	3.2	2.6	1.0	8	2.78	2.9	2.7	1.8	6.7	6.4	12.7
Togiak	3	2	1	3	4	4	1	2	23	4	5	4	8	7	1.2
TOTAL*	17.5	10.1	8.0	19.0	39.6	15.8	5.4	2.4	11.0	24.1	11.5	9.5	19.7	40.4	62.4

*Total slightly irregular because of small runs to rivers not shown in table.
Note: 1980 data preliminary
Source: ADF&G

1980 Bristol Bay
Catch and Escapement

DISTRICT AND RIVER SYSTEM	SOCKEYE SALMON (Thousands of Fish) Catch	Escapement	Total Run
NAKNEK-KVICHAK DISTRICT			
Kvichak River	12,729	22,505	35,234
Branch River	249	298	547
Naknek River	2,146	2,645	4,791
Total	15,123	25,448	40,571
EGEGIK DISTRICT	2,613	1,061	3,674
UGASHIK DISTRICT	926	3,321	4,247
NUSHAGAK DISTRICT			
Wood River	1,469	2,969	4,438
Igushik River	1,068	1,988	3,056
Nuyakuk River	1,668	3,027	4,695
Nushagak-Mulchatna River	180	291	471
Snake River	18	37	54
Total	4,404	8,310	12,714
TOGIAK DISTRICT	608	572	1,180
TOTAL BRISTOL BAY	23,674	38,713	62,387

* Catches are preliminary while escapements are final; all figures rounded to nearest thousand; General district catch pro-rated to individual river systems.

Historical Bristol Bay
Catch and Escapement

PERIOD	SOCKEYE SALMON (Thousands of Fish) Catch	Escapement	Total Run
1960-69 (10-Yr. Average)	8,612	10,476	19,088
1970-79 (10-Yr. Average)	8,182	9,770	17,952
1960-79 (20-Yr. Average)	8,397	10,123	18,520
1975	4,899	19,333	24,232
1976	5,619	5,920	11,539
1977	4,878	4,814	9,692
1978	9,896	9,983	19,879
1979	21,958	18,465	40,423
1980	23,674	38,713	62,387

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Forecasters Predict Decline in 1981 Salmon Harvest

By A.D. Chandler

(NUMBER OF FISH IN THOUSANDS)

AREA	SPECIES	FORECAST RETURN	ESCAPEMENT GOAL	ESTIMATED HARVEST	FORECAST RETURN RANGE	ESTIMATED HARVEST RANGE
Southern Southeastern	Pink	14,600	6,000	8,600	11,300 - 18,600	5,300 - 12,600
Northern Southeastern	Pink	6,800	4,800	2,000	3,800 - 11,900	500 - 7,100
SOUTHEASTERN TOTAL	Pink	21,400	10,800	10,600	15,100 - 30,500	5,800 - 19,700
Prince William Sound	Pink	13,000	1,600	11,400	5,700 - 20,200	4,100 - 18,600
	Chum	660	270	390	240 - 1,100	100 - 850
Cook Inlet — Southern and Outer Districts	Pink	3,000	350	2,650	2,400 - 3,600	2,050 - 3,250
Kodiak	Pink	6,200	1,600	4,600	4,700 - 8,000	3,100 - 6,400
Chignik*	Pink	1,900	700	1,200	1,800 - 2,100	1,100 - 1,400
	Red	1,700	650	1,050	1,400 - 1,800	800 - 1,200
South Peninsula•	Pink	3,600	1,500	2,100	2,500 - 4,800	1,000 - 3,300
Bristol Bay†	Red	26,700	5,500	21,200	15,000 - 38,400	9,500 - 32,900
Kotzebue	Chum	340	85	230	220 - 750	150 - 300
TOTAL		78,500	23,055	55,420		

*Including estimated interceptions in Cape Igvak, Aniakchak, Hook Bay, and Stepovak Bay fisheries.
•Not including pink salmon taken in June near False Pass, South Unimak, and the Shumagin Islands, which are returning to other area.
†Inshore harvest only.
Note: Forecasts are preliminary.
Source: ADF&G

JUNEAU, ALASKA — If official prognostications are correct, a number of Alaska salmon fishermen could be struck by the seventh year itch — the urge to move on.

The reason? Alaska Department of Fish and Game (ADF&G) biologists are pedicting this year's catch at only 75 million fish, almost a third below the tremendous harvest of 1980.

However, before salmon fishermen start sulking over their beers, the department's "lean" forecast still represents a potentially hefty catch. In fact, if the 75 million number is reached, the landing would be among the five highest since World War II.

Dominating the decline are pink salmon. Their harvest could be halved. Red salmon will suffer a far less serious drop, but landings could still fall by more than 12 percent.

While less significant in overall numbers than either the reds or pinks, the number of silvers landed could drop by 20 percent. The decline in chum salmon will be close to five percent, while kings should remain about the same as in 1980.

The big drop in pinks is not altogether unexpected. Odd year landings are usually lower than even-numbered years due to the salmon's two-year cycle at sea. While lower than in 1979, the 1981 harvest should be considerably higher than in 1977.

Kodiak fishermen will feel the brunt of the fall, according to forecasters. This could spell trouble as for the past two years more than 90 percent of the islanders' harvest came from pink salmon. "Scouring of spawning beds (from) heavy rainfall" was cited as the major reason for low fry survival rates by the ADF&G. The 4.4 million fish for 1981 is well below recent off-year levels.

The one bright spot for pinks will be in lower Cook Inlet. The record-breaking 1979 escapement should lead to a 2.7 million fish harvest in 1981, more than triple last season's landings.

To the east, Prince William Sound fishermen also have reason for cautious optimism. The prediction of a 13 million return with an 11.4 million catch is the largest in the history of the region. The projection is based on record 1979 escapement and favorable winter and spring environmental conditions. A year ago, the department predicted the area's return at 5.6 million fish, grossly below the eventual catch of 14.2 million.

In Southeast, the forecasters are predicting a combined return of 21.4 million pinks and a 10.6 million harvest. The projections are lower than many hoped due to poor environmental conditions. The 1981 catch was 14.2 million pinks.

While red salmon fishermen will suffer similar lower landing levels, the decline will not be as noticeable. This is primarily because the upcoming Bristol Bay season should be another strong one. Assuming that fishermen and processors can avoid a replay of last year's price dispute, the run could yield a catch of 21.2 million fish, only a 7.8 percent fall from last year's harvest of 23 million.

Japan's 1981 Bristol Bay run forecast is 28.6 million fish. Unlike their Alaskan counterparts who base their estimates on inshore research, the Japanese make their predictions based on data collected

(Continued on page 33)

Canned Salmon Prices

ALL FIGURES ON A BASIS OF 48 CANS PER CASE

YEAR	SOCKEYE PUGET SOUND	RED ALASKA		KING ALASKA	COHO		PINK		CHUM		YEAR
	Halves	Talls	Halves	Talls	Talls	Halves	Talls	Halves	Talls	Halves	
1951	$19-21	$29-31	$18	$26	$25	$15	$21	$12.50	$18	$11	1951
1952	20-19	27-30	17.50-18	25	21-22	12-13	18-20	12	16	9	1952
1953	18.50-17.50	27	17	24	20	12	18	10.20-10.50	14	8-8.50	1953
1954	18.50-16.50	28-29	16-18	25	23	13.50	20	12.50-13	15	9	1954
1955	20-21	32-33	18.50-19.70	28	26	15	22-23	13.50-14.50	18	10-10.50	1955
1956	23-24	33-34	21-23	29-30	28-29	16	23-24	13-14.50	21	11.50-12	1956
1957	23-24	33-34	21-22	28-29	27-28	15-16	23	13	19-21	11.50-12	1957
1958	19-21	33-35	18-21	28-29	27-28	15-16.50	21	13-13.50	17	11-11.50	1958
1959	24-25	26-37	23-24	29-30	29-32	18-18.50	24-25	13.50-14	21	11.50-12	1959
1960	24-25	36-37	24-25	31-32	31	18.50-19	24-25	13.50	22.50	12-12.50	1960
1961	25	34-37	21.50-25	—	31-32	18.50-20	28	16-16.50	25-26	14.50	1961
1962	25	34	21-23	30-32	30-32	18-20	25-24	15	23	14	1962
1963	25-26	37	24-25	30-31	30-31	17.50-18	22-24	15	21	13-14	1963
1964	26-27	38-40	23-26	30	30-31	16-18	19-23	13-14	17.50-18.50	11.50-13	1964
1965	26	35-37	23-26	30-31	28-30	17-18	26-28	16-18	22-23	13-14	1965
1966	26	36-37	21-25	30-31	30	18-19	28	18	25	13-14	1966
1967	25-26	39-40	24-25.50	30-31	32-34	18-19	30-31	18	26-27	13.50-15	1967
1968	23-26	40-42	20-21	34	33-34	18-19	31	17-18	28	15-16	1968
1969	26.50-29	44.50-46	26.50-28	35-38	36-38	36-38	21-22	32-33	29	16-17	1969
1970	26.50-29	39-41	25.50-28	26-39	36-38	21-23	33-34	20-21	29-30	16-18	1970
1971	31-33	46	28-30	38-39	37-38	23-24	36	20-21	31-32	16-18	1971
1972	35-36	56-57	34-35	—	47-48	27	45	25	40	21	1972
1973	112	110-112	56-58	106	105	53-54	69-72	36-38	64-66	34-36	1973
1974	52	100	50	75-80	84-86	42-45	68-72	38-39	64-66	34-36	1974
1975	50	76-80	46-50	76	70-74	38-40	68-70	36-38	58-60	30-32	1975
1976	52-58	82-86	52-58	—	70-76	38-44	68-70	38-40	58-62	30-34	1976
1977	56-62	90-96	56-62	78	72-78	43-48	62-72	36-40	55-60	29-34	1977
1978	59-62	92-96	59-62	80	72-76	44-47	60-68	35-39	56-60	31-34	1978
1979	66	104-112	67-72	75	82-88	48-54	76-80	42-46	68-72	38-40	1979
1980	76	110-115	72-76	88	86-90	53-56	78-84	44-48	72-76	40-44	1980

Note: Canned salmon prices above reported by Seattle canners and brokers are for top quality stock only. The figures above reflect prices at which the major portion of the pack was sold.
Source: NMFS

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Washington Canned Salmon Packs and Values

ALL DATA ON BASIS OF 48-LB. CASES

YEAR	Plants	RED Cases	RED Value ($)	PINK Cases	PINK Value ($)	CHUM Cases	CHUM Value ($)	COHO Cases	COHO Value ($)	KING Cases	KING Value ($)	TOTAL Cases	TOTAL Value ($)	YEAR
1940	9	62,748	1,122,684	2,947	17,432	23,405	114,798	30,654	231,878	1,674	15,734	121,428	1,502,526	1940
1941	9	110,758	2,140,457	153,924	1,203,657	25,423	187,224	46,213	553,230	4,769	62,354	341,087	4,146,922	1941
1942	10	258,488	5,255,888	851	7,965	2,223	17,748	6,862	97,693	1,204	26,389	269,628	5,405,683	1942
1943	10	19,149	424,339	62,129	637,730	243	2,432	26,292	390,847	2,864	12,456	110,677	1,467,804	1943
1944	3	37,214	830,719	299	3,313	—	—	373	5,883	1,064	21,240	38,950	861,155	1944
1945	6	53,532	1,176,467	305,245	2,724,176	1,184	12,467	18,802	258,076	3,639	63,511	382,402	4,234,697	1945
1946	20	271,311	10,108,350	91	2,184	47,099	989,079	7,118	163,714	6,841	268,120	332,460	11,531,447	1946
1947	25	7,516	315,956	639,426	13,423,416	139,131	2,532,194	79,450	2,254,404	29,143	875,098	894,666	19,401,068	1947
1948	22	91,268	5,005,792	4,645	128,328	245,133	5,558,820	70,659	2,049,606	27,043	903,578	438,748	13,646,124	1948
1949	23	94,627	2,959,425	557,740	9,305,100	162,532	2,381,000	55,910	1,273,000	8,594	224,000	879,403	16,142,525	1949
1950	20	128,385	4,984,208	2,277	61,855	512,997	10,752,172	116,655	3,454,279	8,215	191,712	768,529	19,444,226	1950
1951	25	156,461	5,815,837	441,605	9,419,295	233,468	3,922,457	88,511	2,200,801	11,275	281,794	931,320	21,640,184	1951
1952	20	114,707	5,153,778	817	51,026	292,318	5,147,662	172,910	4,079,424	7,869	178,654	588,621	14,610,544	1952
1953	22	164,848	6,041,592	440,860	8,239,810	144,542	1,761,160	54,901	1,012,224	3,974	106,937	809,125	17,161,723	1953
1954	21	507,719	16,364,291	1,429	32,314	272,455	4,292,256	29,252	742,533	5,054	119,568	815,909	21,550,962	1954
1955	23	81,913	3,088,120	411,280	9,108,207	88,672	1,745,505	63,526	1,886,722	10,177	253,698	655,568	16,082,252	1955
1956	15	70,285	2,865,168	320	7,382	47,068	987,721	59,481	1,836,178	3,582	100,475	180,736	5,796,924	1956
1957	20	189,406	7,750,894	228,930	5,426,423	88,623	1,615,502	87,339	2,486,215	6,497	186,205	600,795	17,465,239	1957
1958	19	415,645	16,299,811	2,374	51,853	145,715	2,397,298	38,351	1,190,264	2,106	66,327	604,191	20,005,553	1958
1959	23	134,739	6,467,272	184,448	4,426,752	156,074	3,277,554	76,377	2,673,195	10,221	327,072	561,859	17,171,845	1959
1960	21	122,317	6,394,924	3,776	106,831	48,003	1,109,717	11,286	476,766	2,535	84,101	187,917	8,172,339	1960
1961	22	140,478	6,825,683	95,242	2,799,569	87,032	2,163,126	58,515	2,025,500	4,633	159,030	385,900	13,972,908	1961
1962	21	84,218	4,299,700	56,043	1,348,847	53,044	1,197,924	35,788	1,214,960	2,872	70,940	231,965	8,132,371	1962
1963	24	119,045	6,206,382	385,562	9,290,411	25,903	547,966	17,921	626,230	5,439	108,021	553,870	16,779,010	1963
1964	20	58,196	2,856,066	11,831	269,268	19,499	329,983	23,551	777,744	4,872	88,234	117,949	4,321,295	1964
1965	12	107,420	5,432,785	65,004	2,058,220	19,718	456,297	32,293	1,156,083	8,814	239,045	233,249	9,342,430	1965
1966	18	144,299	7,411,008	52,588	1,601,673	25,174	621,553	36,747	1,244,208	5,885	168,750	264,693	11,047,192	1966
1967	17	175,616	8,973,591	280,832	9,054,066	18,453	463,773	23,656	787,968	2,752	51,489	501,309	19,330,887	1967
1968	14	83,547	3,913,861	23,405	691,216	23,003	605,617	17,440	631,168	458	15,919	147,853	5,857,781	1968
1969	12	108,581	5,943,030	68,642	2,542,654	889	26,289	24,310	1,145,015	6,945	238,826	209,826	9,895,814	1969
1970	13	108,588	6,795,633	9,159	378,797	12,385	407,827	37,570	1,776,735	788	36,933	168,490	9,395,925	1970
1971	18	245,844	14,876,843	146,930	5,503,513	16,554	530,379	41,538	1,794,022	4,692	247,171	455,550	22,951,928	1971
1972	16	105,797	7,774,662	12,793	579,630	50,943	2,037,720	8,032	449,251	3,743	175,921	181,308	11,017,184	1972
1973	12	117,166	13,122,592	111,313	8,348,475	25,312	1,645,280	37,589	3,946,845	13,554	1,436,724	304,934	28,499,916	1973
1974	17	221,394	18,818,490	32,273	2,259,110	154,580	10,047,700	131,629	11,188,465	38,133	2,936,241	587,009	45,250,006	1974
1975	13	77,136	7,604,838	80,275	5,783,814	1,582	95,395	5,958	432,193	1,548	111,456	166,499	14,027,694	1975
1976	14	107,000	12,197,946	38,000	3,059,882	27,000	1,809,00	17,000	1,385,500	5,700	575,700	194,700	19,028,028	1976
1977	15	84,237	9,843,091	183,076	13,561,066	19,423	1,182,658	11,734	1,040,210	1,339	114,954	299,809	25,741,979	1977
1978	15	4,168	470,984	26,292	1,893,024	5,769	357,678	1,110	101,565	884	79,560	38,223	2,902,811	1978
1979	15	41,949	6,607,806	94,437	8,538,993	3,999	289,847	3,156	291,330	500	37,500	144,041	15,765,476	1979
1980	13	43,680	6,639,360	35,521	3,184,068	25,332	1,925,232	20,136	2,255,232	501	45,090	125,170	14,048,982	1980

Note: Washington pack includes salmon landed and shipped from Alaska

Source: NMFS, National Food Processors Assn. and *Pacific Packers Report*

U.S. Supply, Stocks and Shipments of Canned Salmon

	1978-79	1979-80	1980-81	% Change From One Year Ago
	(Basis 48/1 lb.)			
Carryover, June 1	785,894	643,612	515,271	−20
Pack to December 1	3,255,492	3,313,613	4,356,116	+31
Supply to December 1	4,041,386	3,957,225	4,871,387	+23
Stocks, December 1	2,503,137	2,285,432	2,677,624	+17
Shipmts., Beg. Season to 12/1	1,538,249	1,671,793	2,193,763	+31
	(Actual Cases)			
Carryover, June 1	1,120,211	964,487	741,290	−23
Pack to December 1	4,334,669	4,688,932	6,221,571	+33
Supply to December 1	5,454,880	5,653,419	6,962,861	+23
Stocks, December 1	3,376,040	3,194,794	3,615,222	+13
Shipmts., Beg. Season to 12/1	2,078,840	2,458,625	3,347,639	+36

Source: National Food Processors Association

National Fisherman

The Magazine of the Fishing Industry

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British Columbia Canned Salmon Export Prices

YEAR	SOCKEYE 1-lb Talls or Flats 48's	SOCKEYE ½-lb Flats 96's	SOCKEYE ¼-lb Flats 96's	COHO, SPRING 1-lb Talls or Flats 48's	COHO, SPRING ½-lb Flats 96's	COHO, SPRING ¼-lb Flats 96's	PINK 1-lb Talls or Flats 48's	PINK ½-lb Flats 96's	PINK ¼-lb Flats 96's	CHUM 1-lb Talls or Flats 48's	CHUM ½-lb Flats 96's	YEAR
1947	$23.50	$ 25.00	$15.00	$20.00	$ 21.50	$13.00	$12.50	$14.50	—	$12.00	$13.50	1947
1948	28.50	30.00	17.50	24.50	26.00	15.25	16.50	18.00	—	15.00	16.50	1948
1949	31.50	33.00	19.00	23.50	25.00	15.00	16.50	18.00	—	12.50	14.00	1949
1950	31.50	33.00	19.25	23.50	25.00	15.00	17.50	19.00	$12.00	14.00	14.00	1950
1951	36.00	28.00	21.50	27.50	29.00	17.00	19.00	20.50	12.75	16.50	18.00	1951
1952	31.50	33.00	19.00	20.50	22.00	13.50	15.00	16.50	10.75	13.00	14.50	1952
1953	28.50	30.00	17.50	20.50	22.00	13.50	15.00	16.50	10.75	13.00	14.50	1953
1954	30.00	32.00	18.50	22.50	24.00	14.50	16.00	17.50	11.75	14.50	15.50	1954
1955	35.50	37.00	21.50	26.50	28.00	17.00	18.00	19.50	12.75	15.00	16.50	1955
1956	38.50	40.00	23.00	30.50	32.00	19.00	21.00	22.50	14.25	19.00	20.50	1956
1957	38.50	40.00	23.00	27.50	29.00	17.50	21.00	22.50	14.25	18.00	19.50	1957
1958	25.50	37.00	21.00	26.50	28.00	17.00	20.00	21.50	13.75	15.00	16.50	1958
1959	40.00	46.00	27.00	32.50	36.00	22.00	22.00	24.50	16.25	19.00	20.50	1959
1960	44.00	50.00	29.00	34.50	40.00	24.00	25.00	26.50	17.25	21.00	23.00	1960
1961	42.00	44.00	26.00	34.50	36.00	22.00	25.00	26.50	17.27	—	—	1961
1962	46.50	48.00	28.00	34.50	36.00	22.00	24.00	26.00	17.00	—	—	1962
1963	47.00	50.00	30.00	34.50	36.00	22.00	22.00	23.50	15.00	21.00	22.50	1963
1964	47.00	50.00	31.00	34.50	36.00	22.00	25.00	26.50	16.50	21.00	23.00	1964
1965	47.00	50.00	29.00	35.00	37.00	22.00	28.00	30.00	18.00	24.00	26.00	1965
1966	45.00	48.00	28.00	36.50	38.00	22.00	28.00	30.00	18.00	24.00	26.00	1966
1967	45.00	48.00	28.00	36.50	38.00	22.00	29.00	31.00	18.00	26.00	28.00	1967
1968	41.00-48.00	42.00-48.00	26.00	36.50	38.00	22.00	30.00	32.00	18.50	26.00	28.00	1968
1969	52.50	55.00	31.00	45.00	48.00	27.00	36.00	38.00	22.00	32.00	34.00	1969
1970	48.00	51.00	29.50	45.00*	48.00	27.00	34.00	36.00	21.00	31.00	33.00	1970
1971	51.00	54.00	32.00	44.00	47.00	27.00	34.00	36.00	21.00	31.00	33.00	1971
1972	—	66.00	37.00	50.00	53.00	30.00	38.00	40.00	23.00	34.00	36.00	1972
1973	—	100.00	56.00	—	90.00	50.00	35.00	72.00	40.00	66.00	68.00	1973
1974	90.00	92.00	52.00	82.00	84.00	46.00	70.00	72.00	42.00	62.00	64.00	1974
1975	no pack	110.00	60.00	86.00	90.00	50.00	70.00	72.00	40.00	66.00	68.00	1975
1976	—	110.00	66.00	75.00	110.00	58.00	70.00	72.00	43.00	66.00	68.00	1976
1977	—	114.00	68.00	75.00	100.00	56.00	70.00	74.00	47.00	68.00	70.00	1977
1978	—	130.00	74.00	90.00	108.00	60.00	76.00	82.00	50.00	72.00	78.00	1978
1979	—	156-160.00	92-96.00	—	—	—	92.00	96-102.00	58-62.00	—	—	1979
1980	—	164.00	96.00	—	140.00	80.00	—	108.00	67.00	50.00	104.00	1980

Note: All prices F.O.B. Vancouver, in Canadian Funds
Source: Canadian Fishing Co.

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FORECASTS *(continued from page 29)*

from high seas fishing efforts.

Elsewhere around the state, red salmon fishermen may not be so fortunate. Worst hit, if the predictions are on, will be the False Pass/Shumagin Island fishery at the southern tip of the Alaska Peninsula. In 1980, local fishermen intercepted almost 3.6 million sockeye as they returned to Bristol Bay. This year, they'll be lucky to get away with half that much.

Historically speaking,the quota fishery will still be relatively good, especially if the weather cooperates and the fish set in as well as they did a year ago. Otherwise, the seiners should be okay, but the gillnetters could be in for some tough times.

Along the coast eastwards at Chignik matters should be somewhat brighter. Local landings are predicted to increase by a quarter from last year's 847,000. Increasing competition, however, could cancel out a sizable portion of the gain.

Silver salmon declines will be felt across the state with the catch falling from 3.1 to 2.5 million fish, according to ADF&G's guesswork. Central Alaska, from Prince William Sound to the Shumagin Islands, will feel the brunt of the drop with landings falling 30 percent from the 1.2 million fish harvested in 1980.

On the positive side, the area's chum catch is expected to increase moderately to about 4.14 million fish. While the western region's chum catch will remain roughly the same, Southeast could see its landings drop below a million, a 45 percent fall. Statewide the department is estimating the chum harvest will drop five percent from 9.9 to 9.4 million fish.

Southeastern fishermen might also be running into problems with their small but lucrative king salmon fishery. While it should remain the state's largest for the species, landings may fall as low as 272,000 fish due to a January-imposed quota on the fishery by the State's Board of Fisheries and the North Pacific Fisheries Management Council. A 15 percent cut was proposed by the Council in an attempt to increase depressed runs both in Southeast and Washington's Columbia River. According to the Council, the cut may be in effect for 3 full cycles, or 15 years.

The king landings in other areas of the state are expected to rise a couple of percentage points.

It should be noted that the prediction business is risky at best and ADF&G biologists warn fishermen, processors and brokers from putting excessive stock in them. Over the past several years, department projections have been consistently low, but as one biologist said, "This could be the year we're being optimistic."

British Columbia Canned Salmon Packs

(48-LB. CASES)

YEAR	SOCKEYE	SPRINGS	COHO	STEELHEAD	PINK	CHUM	TOTAL CASES	YEAR
1950	408,041	9,133	116,642	3,243	446,516	498,984	1,482,560	1950
1951	428,299	13,698	312,845	3,656	736,093	461,806	1,956,397	1951
1952	449,174	9,064	64,095	3,752	675,836	91,514	1,293,435	1952
1953	510,147	13,048	110,164	3,031	794,764	394,113	1,825,267	1953
1954	680,718	14,080	128,080	3,734	335,550	580,574	1,742,736	1954
1955	244,821	17,853	185,723	1,590	831,253	124,860	1,406,100	1955
1956	404,392	11,671	217,915	1,254	363,633	203,710	1,202,575	1956
1957	228,452	10,481	217,915	1,125	751,608	239,539	1,449,120	1957
1958	1,079,155	10,475	132,403	1,213	455,518	229,292	1,908,056	1958
1959	256,170	15,231	213,106	866	458,596	133,128	1,077,097	1959
1960	226,844	5,916	91,504	504	219,564	86,818	631,150	1960
1961	398,205	7,921	241,378	978	666,290	95,385	1,410,157	1961
1962	297,716	7,174	187,735	815	1,188,661	134,483	1,816,584	1962
1963	158,375	10,000	146,099	771	757,452	119,190	1,191,887	1963
1964	343,358	9,127	204,732	1,262	464,107	232,722	1,255,308	1964
1965	245,798	18,891	295,284	843	287,925	65,216	913,957	1965
1966	407,949	14,585	281,623	2,480	951,794	160,784	1,819,215	1966
1967	558,892	14,679	146,677	1,296	650,142	94,022	1,465,708	1967
1968	611,011	7,416	187,594	933	669,347	270,688	1,746,989	1968
1969	359,608	5,301	57,947	585	154,188	46,524	624,153	1969
1970	395,606	10,024	114,555	531	660,777	242,389	1,423,882	1970
1971	568,756	11,653	221,463	1,301	502,324	98,508	1,404,005	1971
1972	312,907	11,608	83,755	867	485,164	278,451	1,172,752	1972
1973	642,601	11,258	116,197	999	355,695	423,364	1,550,114	1973
1974	709,180	20,268	160,051	1,557	307,192	230,634	1,428,882	1974
1975	164,055	14,013	61,081	536	240,592	37,093	517,370	1975
1976	376,047	11,187	69,850	152	483,054	85,540	1,025,830	1976
1977	494,172	29,569	74,180	826	686,911	61,309	1,346,967	1977
1978	485,748	8,916	53,960	707	456,058	121,487	1,126,876	1978
1979	295,858	12,953	43,061	327	569,337	33,689	955,225	1979
1980	388,206	6,768	82,651	440	456,363	170,346	1,104,774	1980*

*Includes 217,148 cases packed from salmon imported from the U.S. and 26,411 cases packed from the previous year's frozen stock.
Note: 1980 data are preliminary.
Source: Dept. of Fisheries and Oceans, Vancouver, B.C.

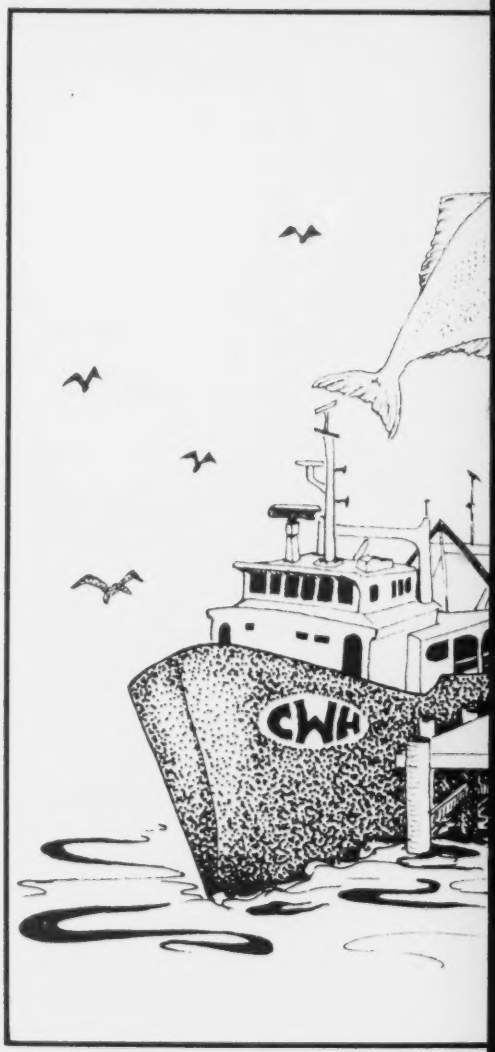
Fraser River Sockeye Salmon Landings

(IN FISH)

YEAR	BRITISH COLUMBIA	WASHINGTON	TOTAL
1950	894,469	1,220,893	2,115,362
1951	1,288,162	1,136,795	2,424,957
1952	1,154,383	1,113,475	2,267,585
1953	1,992,343	2,032,437	4,024,780
1954	4,722,463	4,806,258	9,528,721
1955	1,108,081	1,006,610	2,114,691
1956	894,836	906,872	1,801,708
1957	1,360,760	1,689,625	3,050,025
1958	5,241,617	5,257,316	10,498,933
1959	1,581,883	1,810,738	3,392,261
1960	1,255,195	1,198,969	2,454,164
1961	1,357,099	1,378,392	2,735,491
1962	836,399	758,637	1,595,036
1963	686,681	1,314,045	2,000,726
1964	514,548	508,087	1,022,635
1965	1,039,195	1,026,118	2,065,313
1966	1,350,154	1,337,215	2,687,369
1967	1,875,482	2,087,826	3,963,308
1968	920,092	885,870	1,805,962
1969	1,675,536	1,586,176	3,261,712
1970	1,541,771	1,350,217	2,891,988
1971	3,114,298	2,816,129	5,930,427
1972	1,081,217	1,128,192	2,209,409
1973	2,578,970	2,627,581	5,206,551
1974	2,500,019	2,461,528	4,961,547
1975	644,473	1,563,851	2,208,324
1976	1,382,484	1,322,038	2,704,522
1977	1,971,153	1,789,609	3,760,762
1978	1,317,115	1,362,446	2,679,561
1979	1,620,265	1,775,876	3,396,141
1980	456,158	466,173	922,331

Note: 1980 statistics are preliminary.
Source: International Pacific Salmon Fisheries Commission

Vertical Integration — A Step Up



By Nancy L. Hasselback

Strikes. Lengthy price negotiations. Foreign control. Are these the inevitable future of Alaskan fisheries? Some fishermen and processors don't think so, especially those pioneering bottomfish development within the U.S. industry. They are forming vertically integrated companies which incorporate harvesting, processing and marketing phases within one controlled structure.

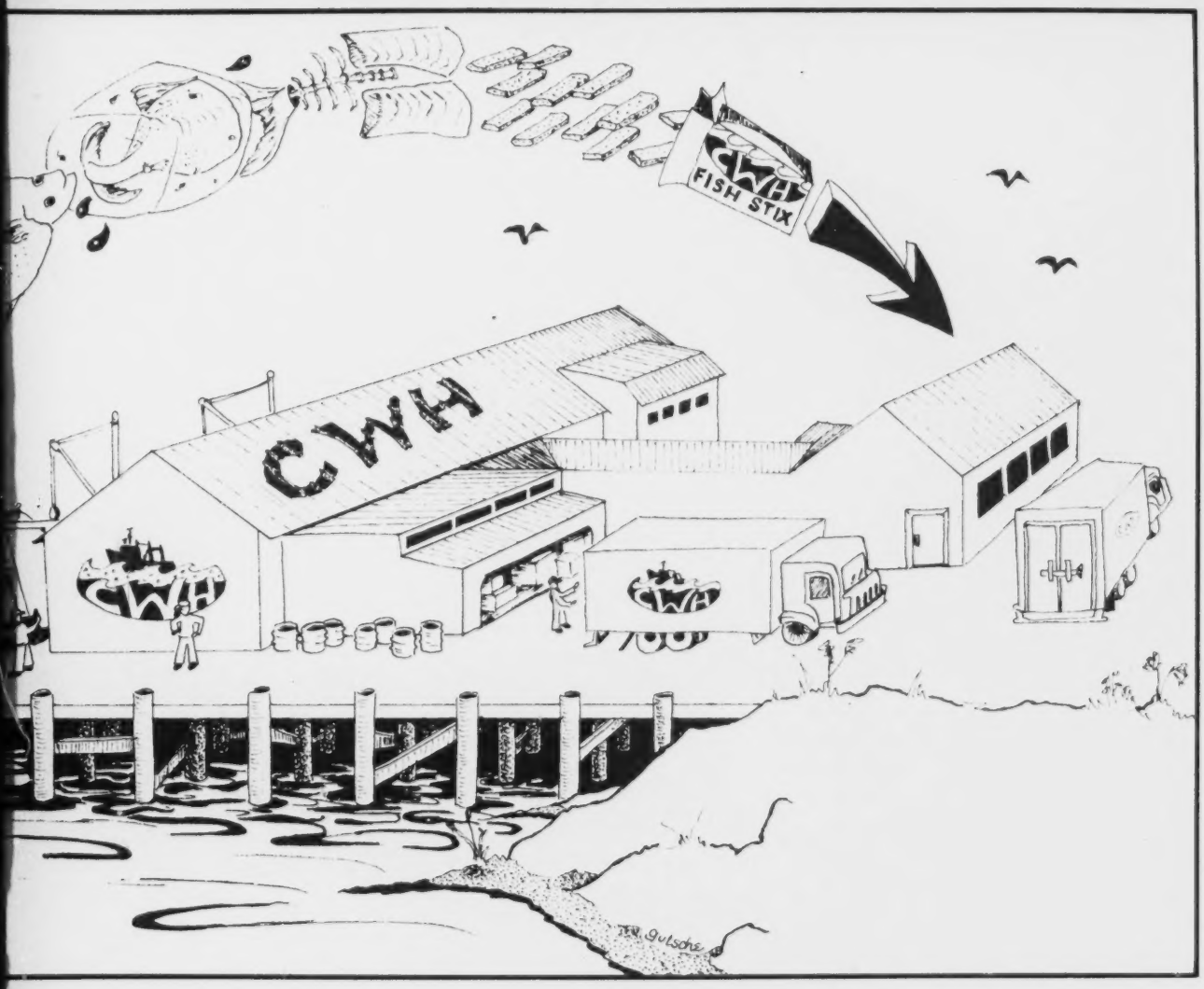
"Fishermen, processors and marketers need not be in an adversary position," says Darryl Pedersen, president of Seawest Industries, based in Edmonds, Washington. Seawest owns a processing plant in Bellingham and is in partnership with a company owning vessels. "We have a non-adversary approach," says Pedersen. "It can't be all for me and the hell with you."

"It seems to become more and more apparent that your best chance of survival in a fairly tough business is to move the assets and the interests and the talents you have into a stronghold of an organizational structure," believes J. King Shanks, president of Continental Marine Corporation, which incorporates a fishing operation, processing plant, marketing operation, ice plant and a computer company. All were existing companies that were merged into one operation to everyone's benefit.

Darryl Pedersen agrees. "Fishermen are better at fishing than anything else, processors are better at processing than anything else, salesmen are better at selling than anything else; but, to have a common thread running through is desirable."

The strength of that thread varies considerably between organizations. Most vertically integrated companies separate the different levels of operation with clearly defined roles for personnel. "You have fishermen who think they ought to own processors and processors who think they ought to own fishermen and I don't think either one of those works real well. You must have something that more resembles a partnership relationship," says Pedersen. He believes the fisherman must be in control of the harvesting operation. "You can only have one lead worm . . . we are not dominant managers." Seawest's fishermen do not hold stock in Seawest, yet their ideas mesh with company policy. "We found fishermen to fish for us who we considered were mentally and emotionally compatible," says Pedersen.

Compatibility is also a key in comprising the entities of Continental Marine, based in Portland. "It is sometimes hard to get a mutually compatible group together; but that's what everybody involved has been trying to do for some time. Vertical integration was a natural evolution rather than any great master plan," says Shanks. Continental Marine is a holding company that manages and provides funding for existing companies. All of the integrated companies are shareholders in the parent company. A board of directors works on overall direction, yielding a cohesive policy, yet each company has substantial autonomy in its day to day management actions. "Any profits end up in the common pot, so you can manage each company to your best advantage," explains Shanks. Even so, each entity must exist profitably on its own. Prices are not readjusted from processor to vessel or vice-versa in order to keep one company showing a profit.



Ken Petersen, part owner of the America No. 1, shares Shanks' belief. Owners of the America No. 1, along with owners of three other vessels are seeking funds to build a processing plant on the Seattle waterfront. They will finish process their own product for which they have already secured a market. "Each segment will be kept separate to ensure they are making a profit. The vessels and plant must stand on their own feet, so one is not subsidizing the other," says Petersen.

Trans Pacific International Industries, Inc., owners of the Arctic Trawler, also organized their company vertically Five businesses are incorporated into one: harvesting, processing, marketing, crab pot construction and a shipyard. Although a company is formed for each business in order to take advantage of tax breaks, such as the capital construction fund available for fishing vessels, Trans Pacific differs from previously mentioned companies in that, except for the marketing segment, everyone participates in each business. General manager Mike Nordby admits that at times knowledge is spread a little thin, a possible disadvantage in a truly vertically integrated company such as his. However, an involvement at each level allows total integration and coordination of activities.

Such a structure may guarantee a secure future for Trans Pacific. "The big problem with our present fishery is that we don't have management. We have not brought young people up," a strong comment from Dr. George Pigott, professor of Food Engineering and Technology at the University of Washington and consultant to processing operations. "In the days of Nick Bez, William Brindle, Aubin Barthold, and Gene Murray, in the teens and twenties, they started this industry in Alaska and they started on high priced fish and they made fantastic money. Any other industry would have said, 'By gosh, I'm not going to be here in 1970 and here's a good young man. I'm going to bring him up and teach him the business.' They didn't do that. They said you're the beach boss and you're the fisherman and you run the plant and I'm going to run the company. None of these people knew what was going on. So your top management retired and died in the last few years. There are a lot of smart people in this industry; but you can't take a guy who's never done anything but seen a fish in a boat and pull him up and say, 'OK, you're going to run the company.' The industry is going to be stagnant as long as we keep our present processors. New England's a good example. It's too bad, but the industry is going to be greatly strengthened by the loss of some of these processors."

Once vertically integrated, what advantages can a company expect that may not be had by a horizontally structured company? Consistency of supply, a guaranteed market, greater efficiency resulting in lower costs, and higher quality through tighter control of the product are a few possible benefits.

Mike Nordby at Trans Pacific believes a company integrates vertically through necessity. When supply is low, companies on the processing end are forced into harvesting. On the other hand, when markets are scarce, a company is inclined to find its own markets.

(Continued on page 37)

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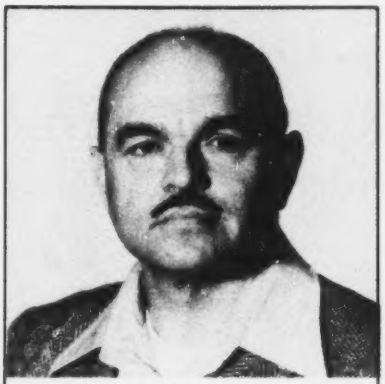
INTEGRATION *(cont. from page 35)*

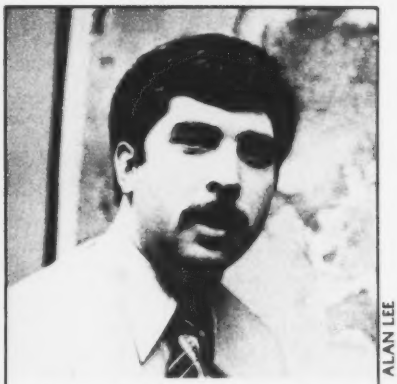
The industry has recognized, perhaps reluctantly, that providing a consistent supply is a prerequisite to breaking into the domestic fillet and frozen block market. The institutional buyer, restaurants and fast food chains which consume large volumes of fillets and blocks rely on a certain number of vanloads of a certain quality and grade of fish on a specified day of the week, 52 weeks a year. "We still cut, process, freeze and sell and market fish in the U.S. in the same way we've done it since the 1930's. We haven't advanced to the point where we can put together big blocks of product, hold it in cold storage and then meter it out at a consistent rate all year long," says Greg Dahl, a Seattle attorney specializing in fisheries and port development.



"The big problem with our present fishery is that we don't have management. We have not brought young people up." George Pigott

MICHAEL NAKAMURA

"Money is going to come from outside the fishing industry; from segments of the business community that maybe are related to the food industry, but not specifically the fishing industry." Greg Dahl



ALAN LEE

"Across the board, people are looking at their immediate superiors on the ladder of marketing fish and saying, 'We can do that.' "
Gary Kuhar

Even if a company can meter out and guarantee a supply of product, its market price must compete with the price of foreign imports, subsidized or not. The Economic Development Council of Puget Sound (EDC) is promoting development of vertically integrated companies by locating markets and acting as a marriage counselor, joining the market with the fisherman or the processor. Gary Kuhar of the EDC believes "vertical integration is a cost saving procedure. If you don't have to sell your product for a higher price, the processor can pass on that lower price to the marketing arm, and the marketing arm is going to be able to compete better. It helps having the same company sell it; prices get thumped up every time it passes from one phase to another. I think sometimes there are too many brokers involved. There's got to be some reason why blackcod, when it was $.30 per pound average to the fisherman and selling for $2.09 in the grocery store, is now $1.99 when the fishermen are getting $.10 per pound. If you can't get it out as cheaply," says Kuhar, "then you had better have better quality."

Ensuring top quality is a primary motive behind America No. 1's owners to vertically integrate. The America No. 1 sits idle at the dock, although another processor has offered facilities to finish their product. "We want control of the product from day to day," says Ken Petersen. "We are not in the garbage business, we are in the premium food business."

Quality can do nothing but improve if the man harvesting the fish has a final stake in its reception in the market place. Typically the fisherman pulls up to the processor's dock, unloads his catch — if it is accepted — gets paid and leaves. His thoughts turn to the next trip, not the fate of the trip he has just unloaded. But when the captain of the vessel is part owner in the company that owns the fish from codend to vanload delivering to a buyer, he will be consistently conscious of producing top quality fish.

The Arctic Trawler's company receives praise from Gary Kuhar of the EDC: "They've done extra careful work to keep the quality up. They know that if they foul up the quality, they will not only jeopardize their program but they will jeopardize the whole North Pacific fishing industry. A lot is resting on their shoulders. A lot of credit has to be given to them for sticking their necks out."

"The vertical integration bug is biting more people," believes Kuhar. "With the higher valued species the small fisherman can vertically integrate. With volume fishing like pollock and cod and the like, then we have to start looking at factories like the Arctic Trawler."

In securing a foothold in the giant bottomfish market, the choice between a vertical structure or a traditional, horizontal organization may not exist. Already the industry has seen failed attempts by processors, one with more than a hundred years of experience in the fishing business. Bottomfish do not lend themselves to replacing salmon and crab at certain times of the year. The logistics of their harvesting and processing must take into account the location of the stocks, the biological properties of round whitefish and the demands of the market. Dr. Pigott, who has been pushing vertical integration in the fishing industry for five years, tackles these problems as he predicts future development of bottomfish. The solutions point to vertically integrated companies.

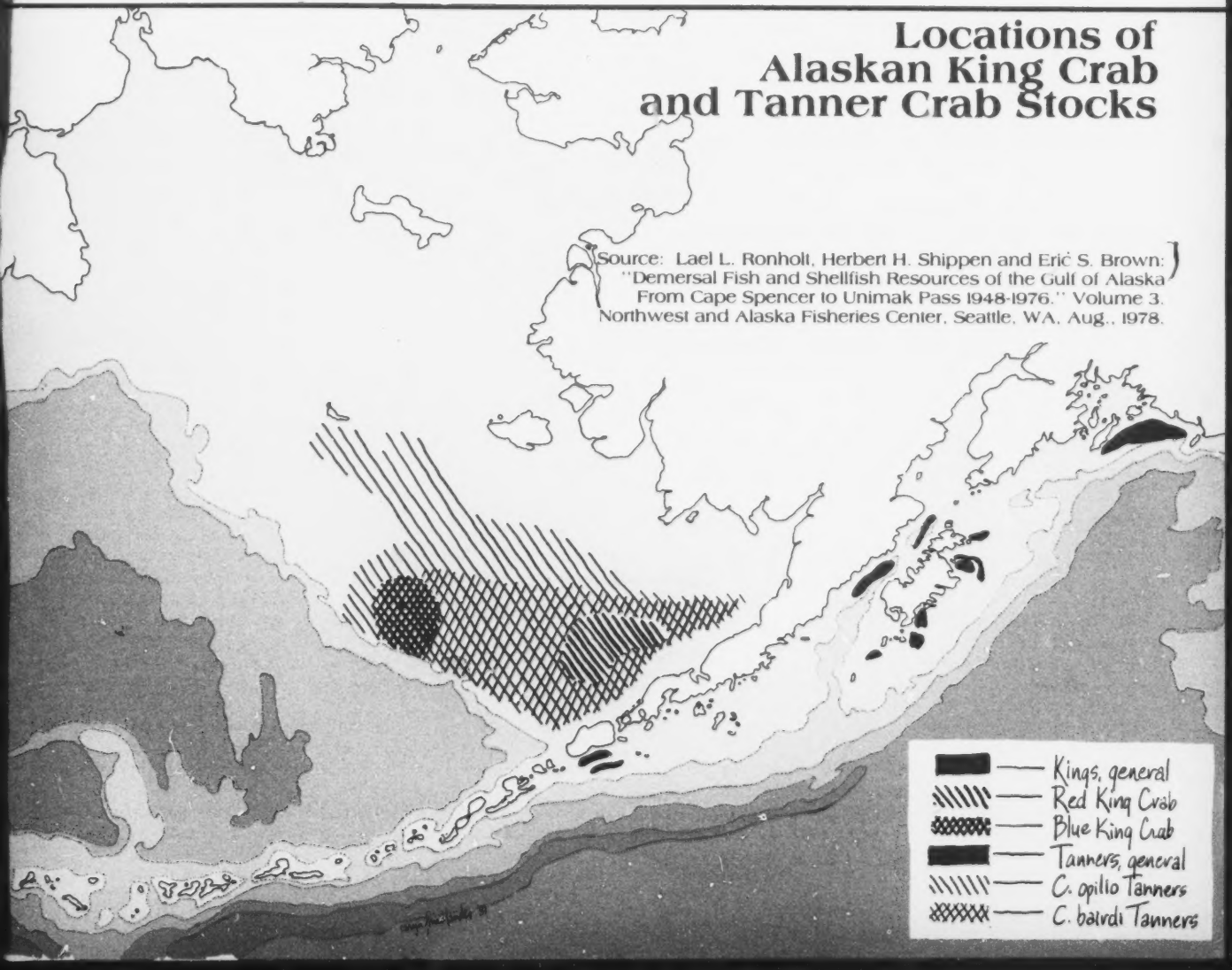
The first problem is eliminating the idea that our present industry, primarily the crab and salmon fleets, will be able to harvest the resource. These vessels are geared towards seasonal operations, harvesting near shore, high priced fish. Only after the offshore bottomfish fleet is developed and sustaining a market does Pigott believe a near shore fishery is possible. "When you do have near shore fish in Alaska, it's in the summertime. In the summer you have 24 hours of sunlight and you have shallow areas, so all of this inshore area is profuse with growth and algae from the sunlight. In the wintertime there's absolutely no growth here, no sunshine. These fish all go offshore to where the Japanese current flows because there's more to eat than there is inshore." To handle an offshore fishery, Pigott envisions the future catcher processor with a capacity of preprocessing at least 50,000 pounds a day and an overall length of 150 to 250 feet.

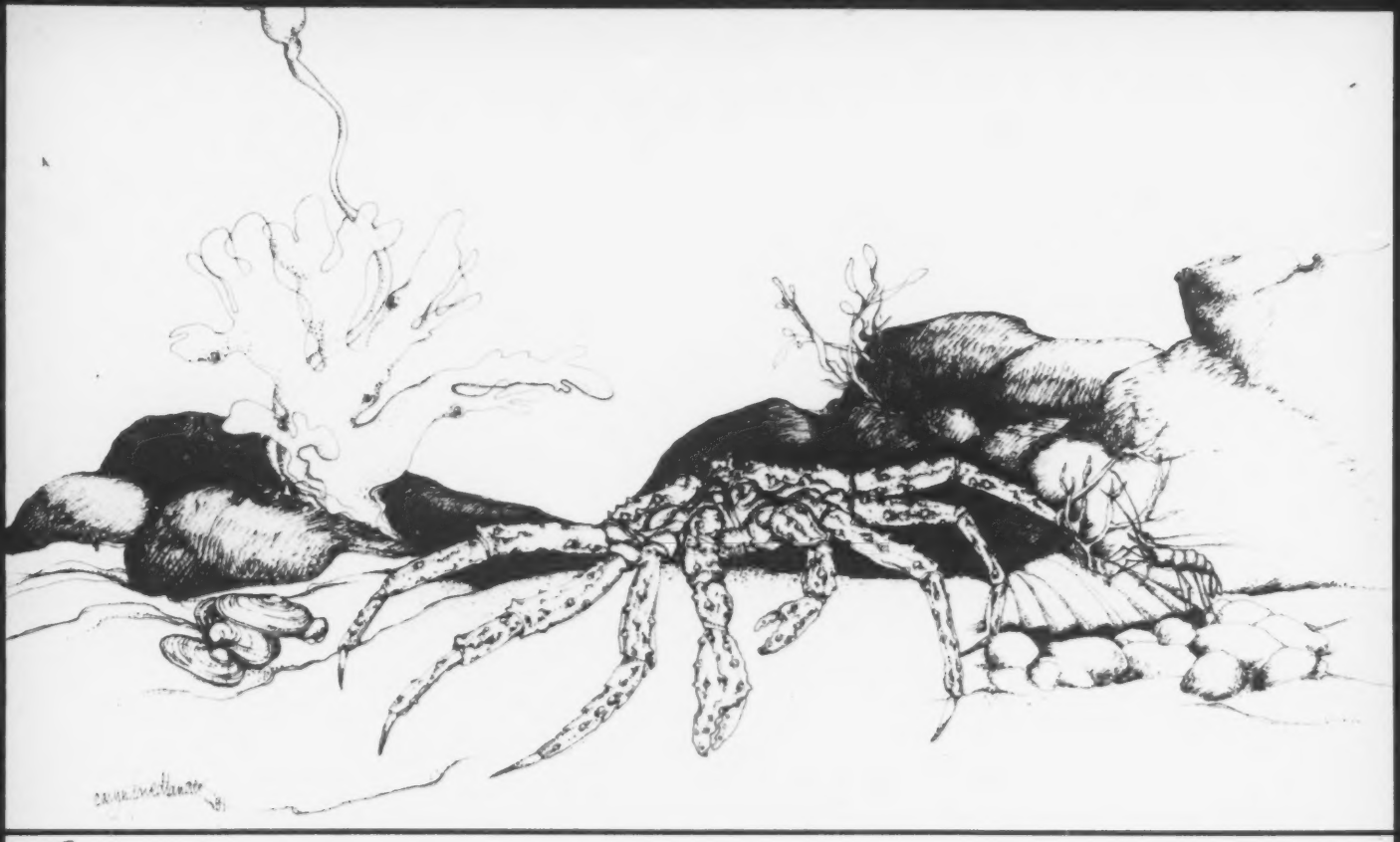
Once on the high seas, a vessel must be equipped to handle a product that deteriorates rapidly, requiring at least a minimum amount of processing soon after being caught. And, in order to compete in the same market presently filled by foreign fleets, we must match their costs. Pigott believes subsidies cannot be blamed for our inability to com-

(Continued on page 54)

SHELLFISH:

Recovery Spurred by Domestic Demand


Locations of Alaskan King Crab and Tanner Crab Stocks
Source: Lael L. Ronholt, Herbert H. Shippen and Eric S. Brown: "Demersal Fish and Shellfish Resources of the Gulf of Alaska From Cape Spencer to Unimak Pass 1948-1976." Volume 3. Northwest and Alaska Fisheries Center, Seattle, WA. Aug., 1978.
Kings, general
Red King Crab
Blue King Crab
Tanners, general
C. opilio Tanners
C. bairdi Tanners



• King crab sales were slow in the beginning of 1981, the pipelines had been filled. Prices, although not tumbling to all time lows of $2.20 per lb. for 20 lb. pack sections as they did last season, dropped after the holiday season. The wholesale price touched $2.85 but rebounded quickly to $3.25 — 3.60 for truckload sales. Although trading was slow for crab heading east, one processor speculated active trading was taking place among New York dealers who had stocked up while prices were low.

Processors able to pay interest rates are holding onto product, anticipating price increases of $.06 to $.07 a month through early summer. Last year sellers bailed out when prices deviated from the normal pattern of increasing gradually with the cost of holding product. Instead, in 1979, prices fell drastically through February, only to surge upward as inventories dropped. This year's gamble of holding product may pay off.

Forced to peddle their product elsewhere because Japanese buyers offered unfavorable terms, processors were surprised by the demand in the domestic market, and found they had been "missing the boat." Promoted as a restaurant feature, king crab tantalized consumers nationwide, promising further penetration of the domestic market in the future.

Meat inventories were scarce in the beginning of 1981, a result of record landings for the season. Sections were put up to handle the run. With price incentives, more meat will be extracted, possibly raising the percentage of meat over sections over last year's pack. The low fill problem prevalent early in 1981's season, causing a rejection of some product by Japanese buyers, did not last. *(Continued on page 40)*

1980 Alaska Shellfish Landings by Area

(POUNDS)

AREA	Red King Crab	Blue King Crab	Tanner Crab - *Bairdi*	Tanner Crab - *Opilio*	Dungeness Crab	Korean Hair Crab	Trawl Shrimp	Pot Shrimp*	Razor Clams	Other★	TOTAL
Southeastern	584,584	—	4,024,561	—	1,347,801	—	2,323,531	62,205	—	489,391	8,832,073
Prince William Sound	36,482	—	5,953,980	—	690,819	—	497,328	73,004	5,881	—	7,257,494
Cook Inlet	1,967,683	—	4,808,115	—	1,875,281	—	6,144,416	211,470	138,272	8,811	15,154,048
Kodiak	19,808,621	—	18,584,770	—	1,981,204	—	27,518,509	4,700	8,006	389,432	68,295,242
Chignik	193,831	—	3,716,922	—	—	—	12,260,179	—	—	—	16,170,932
South Peninsula	4,574,939	—	7,418,425	—	—	—	—	—	—	—	11,993,364
Dutch Harbor	16,909,461	—	879,807	—	—	3,480	2,479,350	—	—	1,446	20,273,544
Adak/Western Aleutians	27,770	—	337,297	—	—	—	—	—	—	23,485	388,552
Bering Sea	130,206,504	10,827,838	36,557,869	39,354,615	—	56,435	—	—	—	—	217,003,297
Total	174,309,911	10,827,838	82,281,746	39,354,615	5,895,105	59,915	51,223,313	351,379	152,159	912,565	365,368,546

* Heads on weight.

★ Other distribution: Southeastern — abalone and scallops; Kodiak — scallops and octopus; Cook Inlet — octopus; Dutch Harbor — octopus; Adak/Western Aleutians — brown king crab.

Note: Data are preliminary

Source: ADF&G

Alaska Shellfish Landings

(THOUSAND POUNDS)

YEAR	KING CRAB	TANNER CRAB	DUNGENESS CRAB	SHRIMP
1961	43,412	7	4,592	15,981
1962	52,782	- 1	8,989	16,943
1963	78,740		12,084	15,126
1964	86,720	14	12,709	7,727
1965	131,671		8,895	16,819
1966	159,202		5,053	28,193
1967	127,716	118	11,598	41,812
1968	82,037	3,247	13,247	42,077
1969	57,730	11,206	11,304	47,851
1970	52,061	14,473	9,696	74,256
1971	70,703	12,880	3,749	94,891
1972	74,427	30,135	5,448	83,830
1973	76,824	61,719	6,423	119,964
1974	95,214	63,906	3,818	108,741
1975	97,629	46,857	3,034	98,964
1976	105,899	80,771	1,546	128,682
1977	99,600	98,500	1,160	117,000
1978	122,930	130,630	7,170	73,330
1979	154,390	131,380	6,370	51,060
1980	185,034	114,921	5,895	51,574

Note: 1979 and 1980 data are preliminary.
Source: ADF&G

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SHELLFISH *(cont. from page 39)*

• Landings of king crab were greatest in the Bering Sea area, increasing 12 million pounds in 1980 over 1979 levels. Admitting the fishery was shut down prematurely and underharvested in 1979, the ADF&G allowed a greater harvest in 1980, taking care of the older crab left on the grounds. Catch per unit effort was 23 crabs per pot when the season closed, having started at a level of 66 crabs per pot. When 1979's fishery closed, 53 crabs were caught for each pot hauled.

The same number of vessels fished the Bering Sea as did last year — 236. The number of processors increased and catcher boats were put on a rotation basis, resulting in very minor deadloss in 1980. In 1979 processors were plugged and deadloss was heavy.

• Tanner crab may present some difficult marketing problems this year, but only for *opilio*, the smaller of the two species. Demand is high for *bairdi*, by both Japanese and American buyers. Roughly half of *bairdi* remains home while Japanese consume 99 percent of exports. Promotion efforts are underway with hopes of weakening the dependence on the Japanese market.

Promotion efforts will be particularly directed towards *opilio*, which in the past has been almost totally consumed by Japanese. For the first time, Japan has been cut from the Bering Sea quota for *opilio* tanner crab, leaving all available stocks for U.S. processors. Japanese importers have claimed that without a fishery of their own, promotion efforts will fade and demand may fail. Wishing to hold onto total allocation of the optimum yield, U.S. processors may be hard pressed to market *opilio* in the U.S. and Europe. Competition already exists by way of eastern Canadian landings which are able to undercut Bering Sea prices.

• Most Pacific king and tanner crab is shipped to distributors in the East, faced with stiff competition for Pacific markets by the more succulent Dungeness crab. Because the fishery was developed wholly by domestic processors and is sold mainly up and down the Pacific coast, marketing Dungeness is affected by the reliable principles of supply and demand. 1979-1980's season set records in some areas resulting in "a dog fight on the streets to see who could sell it the cheapest," according to one processor. Supermarkets sold Dungeness as a loss leader item, "cheaper than hamburger."

This year filling markets which were established by last year's low prices has been the only problem encountered by processors. Catches have been low,

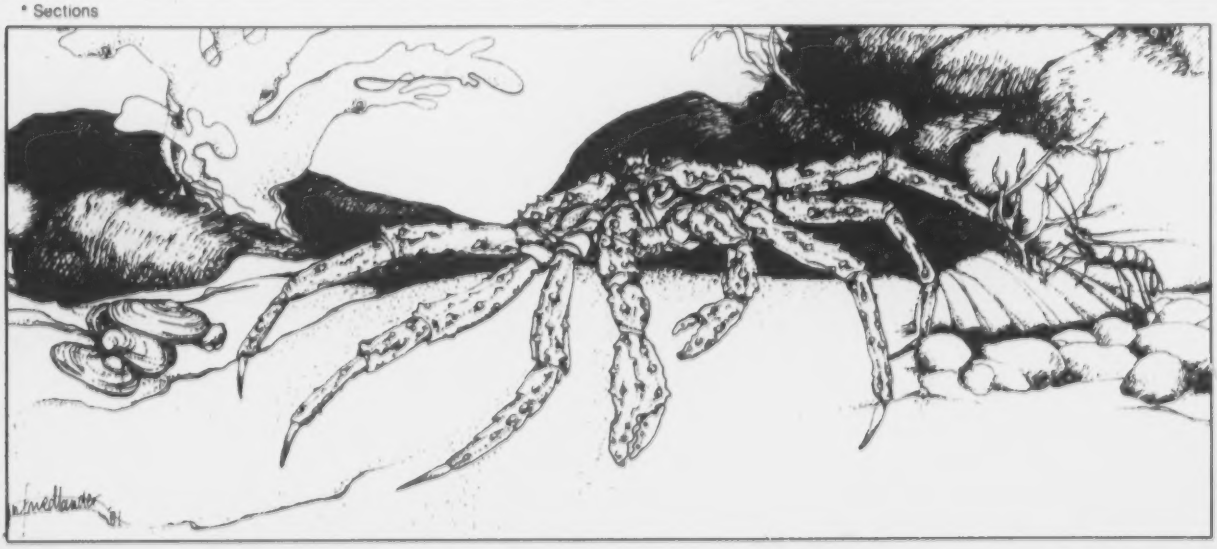
(Continued on page 43)

1980 West Coast Frozen Shellfish

(POUNDS, WHOLE FISH PURCHASED FOR PROCESSING)

COMPANY	LOCATION	KING CRAB IN SHELL	DUNGENESS CRAB IN SHELL	TANNER CRAB IN SHELL	SHRIMP	SCALLOPS	CLAMS, WHOLE	TOTAL
ALASKA								
Alaska Packers Association, Inc.	Chignik	1,202,875		2,280,350				3,483,225
	Kodiak	433,805	25,925	1,362,336	5,244,792			7,066,858
Alaska-Shell, Inc.	Akutan	7,404,615		7,376,288				14,780,903
Columbia Wards Fisheries	Alitak	588,992						588,992
	Kodiak	1,137,003		766,296				1,903,299
Trans Pacific Industries	Bering Sea	5,400,000		2,700,000				8,100,000
Dutch Harbor Seafoods, Ltd.	Dutch Harbor	5,379,511		3,704,687				9,084,198
Harbor Seafoods Co., Inc.	Wrangell	5,164		3,566	36,461			45,191
Icicle Seafoods, Inc.	All points	2,212,000	518,000	4,437,000	5,129,000			22,296,000
Morpac, Inc.	Cordova		239,237	1,817,533				2,056,770
Pan Alaska Fisheries	All points	28,855,562		12,237,155				41,092,717
Pelican Cold Storage Co.	Pelican & Port Alexander	46,000		6,500				52,500
Peter Pan Seafoods, Inc.	King Cove	7,036,776						7,036,776
Sea-Alaska Products, Inc.	Dutch Harbor	11,956,000		6,548,000				18,504,000
Trident Seafoods Corp.	M/V Billikin, M/V Bountiful, M/V Tempest, Mr. J	8,179,525		504,557				8,684,082
Ultra Alaska Associates	Barge: Akutan	4,982,357		1,086,561				6,068,918
Universal Seafoods Ltd.	Dutch Harbor	16,204,830		8,287,518				24,492,348
Ursin Seafoods, Inc.	Kodiak	2,400,000		950,000				3,350,000
Western Alaska Fisheries	Kodiak	1,724,379		1,125,645		79,483		2,929,507
Yukon Bleu, Inc.	Akutan	4,956,956						9,395,940
TOTAL ALASKA		120,106,350	783,162	59,632,976	10,410,253	79,483		191,012,224
BRITISH COLUMBIA								
Prince Rupert Fishermen's Co-op Association	Fairview	7,575	416,896					424,471
WASHINGTON								
Chinook Packing Co.	Chinook	100,000	700,000	200,000	1,100,000			2,100,000
Guilford Packing Co. Inc.	Port Townsend						157,119	157,119
Harbor Bell, Inc.	Bay Center		527,038		819,078			1,346,116
Jessie's Ilwaco Fish Co.	Ilwaco		400,000		1,000,000			1,400,000
Sea K Fish Co., Inc.	Blaine		335,000				15,000	350,000
Seawest Industries, Inc.	Bellingham		199,975					199,975
Washington Crab Producers, Inc.	Westport		2,250,000		1,500,000			3,750,000
TOTAL WASHINGTON		100,000	4,412,013	200,000	4,419,078		172,119	9,303,210
OREGON								
Alaska Packers Association, Inc.	Hammond		1,484,663		1,171,944			2,656,607
	Newport				6,679,013			6,679,013
Bell Buoy Crab Co.	Seaside		378,000				60,000	438,000
Bumble Bee Seafoods	Astoria & Newport		1,368,633		3,976,976			5,345,609
TOTAL OREGON			3,231,296		11,827,933		60,000	15,119,229
CALIFORNIA								
California Shellfish Co., Inc.	Santa Rosa		4,000,000		4,000,000			8,000,000
Eureka Fisheries Inc.	Fields Landing		250,000					250,000
Meredith Fish Co.	Sacramento		1,000,000	500,000*	1,000,000			2,500,000
Young's Meat Co.	Los Angeles				1,625,000	285,000		1,910,000
TOTAL CALIFORNIA			5,250,000	500,000	6,625,000	285,000		12,660,000

* Sections



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Pacific Coast Dungeness Crab Landings

(POUNDS)

SEASON	ALASKA	BRITISH COLUMBIA	WASHINGTON	OREGON	CALIFORNIA	TOTAL
1960-61	4,591,000	4,284,000	7,388,000	10,816,000	12,446,000	39,525,000
1961-62	8,989,000	2,444,000	5,675,000	5,813,000	3,987,000	26,908,000
1962-63	12,084,000	3,738,000	5,105,000	3,546,000	2,342,000	26,815,000
1963-64	12,708,000	4,302,000	5,043,000	3,540,000	1,998,000	27,591,000
1964-65	8,895,000	3,501,000	7,715,000	6,221,000	4,749,000	31,081,000
1965-66	5,053,000	4,538,000	11,649,000	10,187,000	10,419,000	41,846,000
1966-67	11,597,000	5,295,000	9,291,000	9,428,000	10,705,000	46,316,000
1967-68	13,242,000	4,373,000	11,736,000	10,215,000	13,158,000	52,724,000
1968-69	11,304,000	3,705,000	19,250,000	11,965,000	13,685,000	59,909,000
1969-70	9,697,000	2,548,000	18,675,000	13,849,000	15,564,000	60,333,000
1970-71	3,749,000	1,963,000	13,211,000	14,735,000	8,501,000	42,159,000
1971-72	5,448,000	1,975,000	10,095,000	6,780,000	2,875,000	27,173,000
1972-73	6,423,000	2,580,000	5,583,000	3,143,000	1,500,000	19,229,000
1973-74	3,818,000	2,500,000	4,604,000	3,462,000	880,000	15,264,000
1974-75	3,034,000	2,513,000	5,896,000	3,335,000	1,816,000	16,594,000
1975-76	1,523,000	2,121,000	9,885,000	9,099,000	17,410,000	40,038,000
1976-77	1,181,000	2,269,000	14,023,000	16,200,000	26,404,000	60,077,000
1977-78	7,215,000	2,592,000	9,237,000	12,501,274	13,900,000	45,444,274
1978-79	6,374,932	3,634,396	7,979,403	16,500,000	8,236,142	42,724,873
1979-80	5,905,290	3,440,444	6,500,000	18,300,000	13,900,371	47,846,105

Note: 1979-80 seasonal data are preliminary.

Source: State and provincial fisheries agencies.

Pacific Coast Shrimp Landings

(POUNDS)

YEAR	ALASKA	BRITISH COLUMBIA	WASHINGTON	OREGON	CALIFORNIA	TOTAL
1961	15,980,550	1,206,000	1,436,599	1,455,900	2,006,274	22,085,323
1962	16,943,120	1,663,000	1,367,441	2,750,400	1,786,289	24,510,250
1963	15,126,950	1,788,000	956,105	3,114,700	2,095,278	23,081,033
1964	7,726,750	1,052,000	314,130	5,477,400	980,608	15,550,888
1965	16,818,941	1,755,000	23,468	1,748,000	1,425,875	21,771,284
1966	28,192,621	1,682,000	282,947	4,751,300	1,213,959	36,122,827
1967	41,812,552	1,696,000	1,028,744	10,373,956	1,404,821	56,316,073
1968	42,077,104	1,568,000	1,163,864	10,163,864	2,223,205	58,008,431
1969	47,850,560	2,118,700	1,425,286	10,477,945	2,951,800	64,824,255
1970	74,256,326	1,537,800	925,000	13,735,000	4,044,640	94,498,766
1971	94,891,304	735,000	678,000	9,291,000	3,074,000	108,669,304
1972	83,830,064	794,000	1,582,000	20,900,000	2,500,000	109,606,064
1973	119,963,729	1,729,000	5,271,000	24,517,194	1,239,976	152,702,729
1974	108,741,434	2,644,000	9,300,000	19,968,000	2,360,000	143,013,434
1975	98,535,031	1,729,000	10,200,000	23,700,000	4,997,000	139,161,031
1976	129,011,047	8,470,000	9,224,898	25,300,000	3,470,000	175,475,945
1977	116,871,605	6,200,000	11,400,000	48,580,022	15,663,451	198,715,078
1978	73,292,614	3,100,000	12,298,000	56,666,109	13,163,243	158,519,966
1979	50,774,943	1,578,000	12,135,000	29,586,586	4,922,917	98,997,446
1980	51,574,692	1,172,528	12,500,000	29,929,000	4,242,754	99,418,974

Note: 1979 Alaska statistics are preliminary. 1980 statistics are preliminary.

Sources: State & provincial fisheries agencies.

SHELLFISH *(cont. from page 40)*

down 2½ million lbs. for Oregon in the month of December. Prices reacted accordingly. January ex-vessel prices for Oregon crab fishermen hovered around $1.10 compared with $.65 last year. The wholesale price for whole cooked crab increased from $1.10 to $1.75.

Low catches are blamed on the cyclical nature of the crab. Stocks are well controlled biologically, limiting catches to male crabs of a specified size. Over capitalization of the industry has squeezed most production into the first few weeks of the fishery. Frozen Dungeness crab does not possess a long shelf life — at most three to four months. If landings were distributed more evenly throughout the season, more crab would go to freezers and meat extractors, raising the product's value. Presently half of crab landed is sold whole, fresh or frozen, and half is sold as meat.

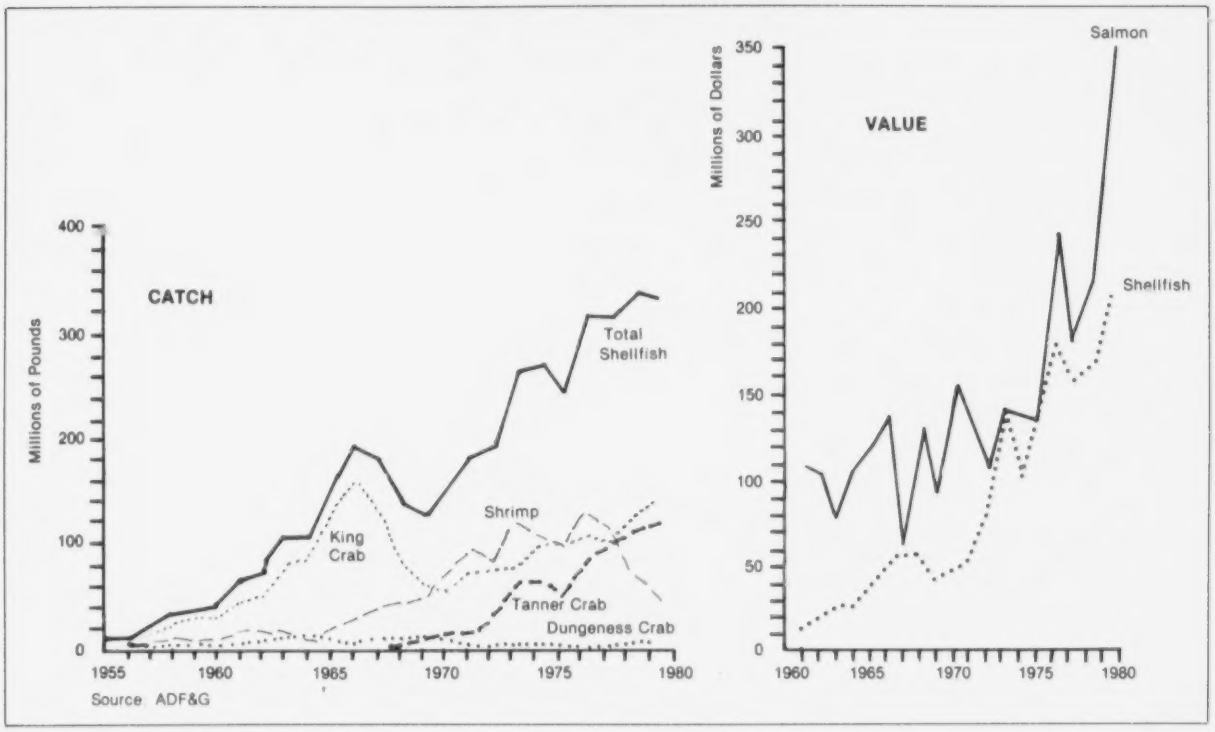
• Prospects for the shrimp industry look dismal from all angles. Catches are down up and down the coast, especially in Alaska. Prices are not making up for low supply. Kodiak, Alaska, where the shrimp fleet almost doubled from the previous year, experienced a 45 day strike in 1980, settling for an ex-vessel price of $.29.

Restrictions imposed by the Food and Drug Administration controlling salmonella count previously limited imports of foreign shrimp. Recently strict controls have been lifted, causing a new wave of imports. Indian caught shrimp, selling at $4.00 per lb. undercuts the price of Alaskan shrimp which sells for $4.60 per pound. Not only have imports affected price, but they also affect the consumer's image of shrimp. One spokesman claimed imports were an inferior grade product, specifically "a pile of cat food." Looking for the best buy, a domestic consumer will choose an imported can, which may tarnish his image of all shrimp.

NLH

★★★

Alaska Shellfish Catch and Value



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1980 Alaska Shellfish Wholesale Prices

PRODUCT	CANS/CASE (Net Weight)	PRICE RANGE
Canned Crab		($/Case)
Snow	24/7 oz fancy	70.00
Snow	24/6½ oz fancy	68.00-70.00
Canned Shrimp		
Northern Tiny	24/4½ oz fancy	33.50-37.00
Northern Tiny	24/4½ oz broken	31.00-35.00
Frozen Crab		($/lb)
Dungeness Meat	6/5 lb vacuum tins fancy	4.60-5.50
King Meat	6/5 lb ctn fancy	6.80-7.75
King Sections	20 lb ctn fancy	3.50-3.80
Snow Meat	6/5 lb ctn fancy	4.75-5.30
Snow Sections, Large	20 lb ctn fancy	1.80-2.20
Snow Sections, Small	20 lb ctn fancy	1.00-1.30
Frozen Scallops	10/15 lb blocks, fancy	4.80
Frozen Shrimp		
Northern Tiny	6/5 lb IQF	4.40-4.60
Northern Tiny	6/5 lb vacuum tin	4.40-4.60
Northern Tiny	6/5 lb blocks	4.60
Northern Tiny	12/1 lb bags (IQF)	4.60-4.70
Northern Tiny	12/8 oz bags (IQF)	4.60

Note: All prices FOB Seattle as quoted November 8, 1980.

Source: NMFS

1980 Alaska Shellfish Ex-Vessel Prices

SPECIES AND AREA	PRICE
King Crab	
Southeastern	$.90-1.05
Cook Inlet	.75-1.25
Kodiak	.95-1.20
Chignik	.95-1.20
S. Peninsula	.95-1.15
Unalaska	.86-1.10
Bering Sea	.80-.90
Dungeness Crab	
Southeastern	.50
Prince William Sound	.38-.50
Cook Inlet	.45-.55
Kodiak	.25-.45
Tanner Crab (C. Bairdi)	
Southeastern	.45-.55
Prince William Sound	.555
Cook Inlet	.54-.58
Kodiak	.555
Chignik	.52-.55
S. Peninsula	.54-.60
Unalaska	.52
Bering Sea	.52
Tanner Crab (C. Opilio)	
Bering Sea	.20-.21
Shrimp (Pink, Trawl)	
Southeastern	.12-.15
Prince William Sound	.29-.35
Cook Inlet	.225-.35
Kodiak	.225-.295
Chignik	.21-.29
Unalaska	.22-.28

Note: Prices are estimates, not intended to represent weighted average prices.

Source: NMFS

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1980 Monthly Alaska Shellfish Landings

(POUNDS)

	CATCH	DEADLOSS
KING CRAB		
January	2,467,329	
February	196,968	24,850
March	119,453	
April	72,706	
May	10,445	
June	6,825	
July	1,824,686	
August	1,637,503	
September	64,468,513	1,170,113
October	83,000,743	958,982
November	20,598,213	122,367
December	10,734,365	42,752
TOTAL	**185,137,749**	**2,319,064**
TANNER CRAB		
January	10,024,359	32,951
February	18,568,665	22,800
March	30,843,030	40,579
April	23,307,017	70,061
May	26,937,030	90,785
June	7,827,976	121,568
July	1,496,968	
August	12,292	
September	44,499	
October	48,887	
November	342,302	
December	2,183,336	15,286
TOTAL	**121,636,361**	**394,030**

Note: Data are preliminary.

Source: ADF&G

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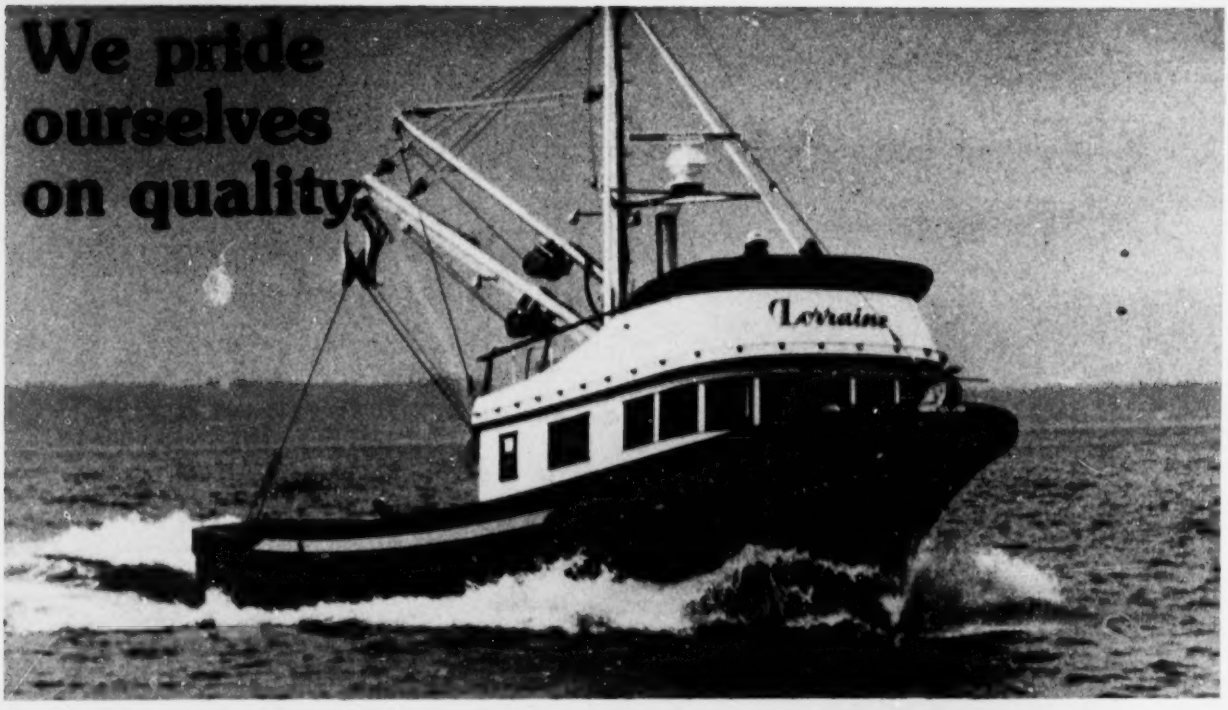

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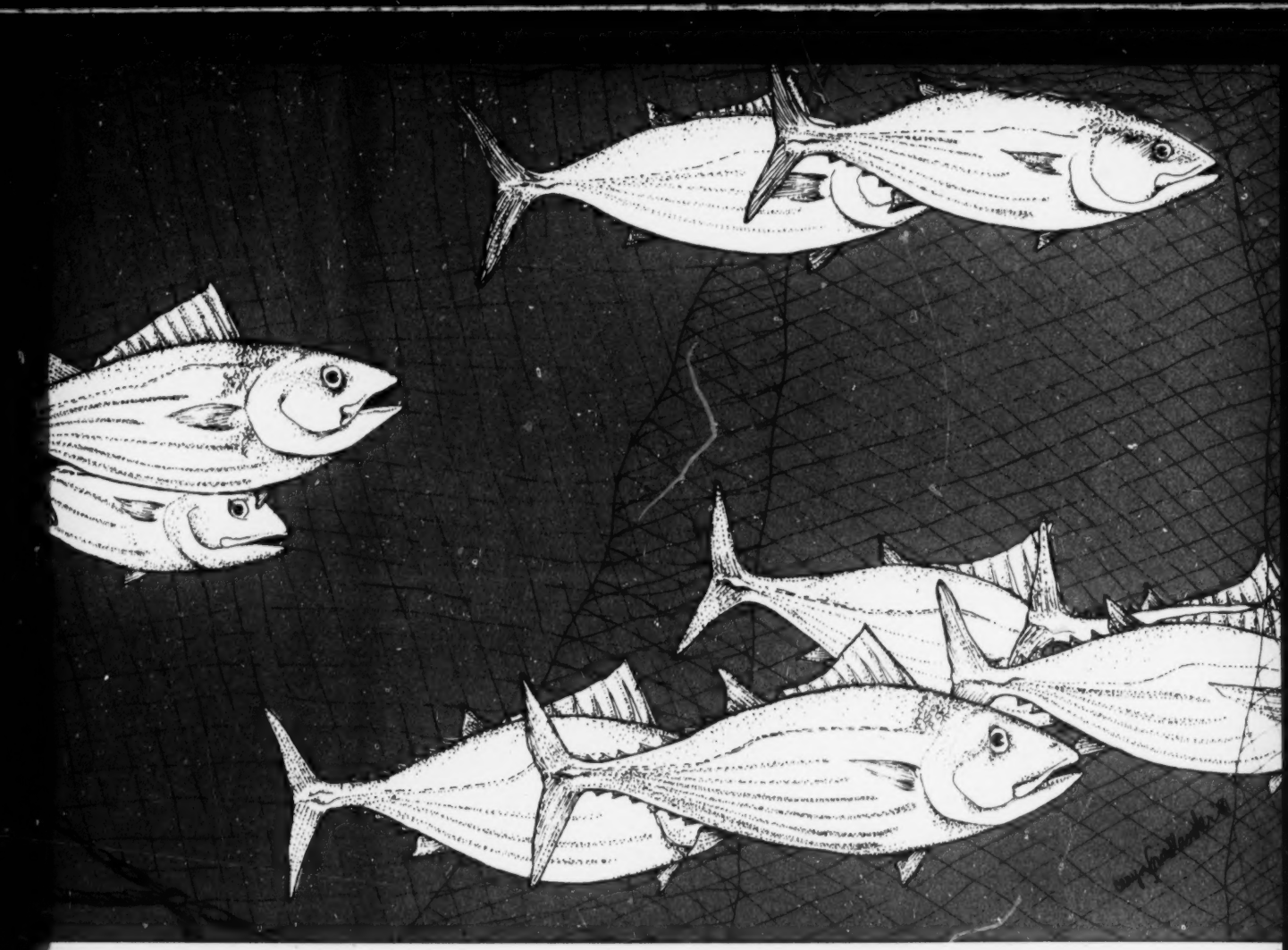


TUNA: Continued Growth Marks a Stable Industry

• SAN DIEGO, CALIF. — The marketing prospects for the tuna industry this year appear to be bright — certainly much brighter than the outlook for the American fleet which entered 1981 with a hangover of problems in the eastern tropical Pacific Ocean.

Surprisingly, however, the U.S. catch was above the previous year's.

From the marketing view, the industry is looking to a good year, sparked by manageable inventories and predictions that beef prices will rise 15 to 20 percent. The price of tuna may not have to rise much at all.

Chicken also is due for a price boost. It and red meat, especially hamburger, are tuna's major competitors, and a marked price differential strongly influences the consumer.

The market outlook is much brighter than it was in 1980 when the tuna industry had to increase prices 20 percent, and red meat was sluggish. Afterward, meat prices rose higher than was expected, and tuna ended up with a good year.

• It's a good year when the per capita consumption of tuna is up to three lbs. Last year it was about 3.1 lbs., and is likely to do as well this year, according to informed industry sources.

Heinz, parent company of Star-Kist Foods, was up five to six percent in shipments last year. Ralston Purina's Van Camp Sea Food Co. had a record year in sales and profits.

The industry in general enjoyed a unit growth of five to six percent last year, which is excellent since it represents the increase in the number of cans and not inflation. If the industry can repeat that performance this year, it should result in a very good year for marketing.

• A survey of industry leaders revealed a minor difference of opinion in the price situation. Heinz thinks they may get through the year without boosting prices. Ralston and Castle & Cooke, parent company of Bumble Bee Seafoods, expect a moderate price increase.

Chicken of the Sea (Van Camp) has 30.1 percent of the market, with Star-Kist at 27.5 percent and Bumble Bee at 13.6 percent. The Breast 'O Chicken

(Continued on page 49)

1980 United States Tuna Pack

(STANDARD CASES)

REGION	ALBACORE	LIGHTMEAT	TOTAL
U.S. Continental	1,245,000	13,355,000	14,604,000
Puerto Rico, American Samoa and Hawaii	4,282,000	11,966,000	16,248,000
TOTALS	5,531,000	25,321,000	30,852,000

* 48 halves per case.

Note: Data are preliminary.

Source: NMFS

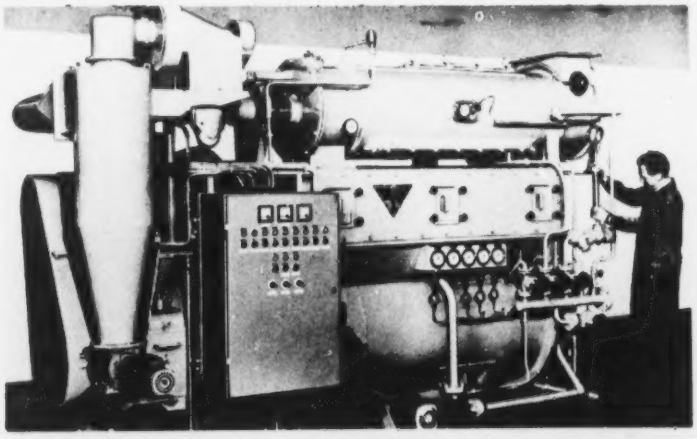
United States Tuna Packs by Type Pack

(STANDARD CASES ★)

	ALBACORE				LIGHTMEAT					
YEAR	Solid	Chunks	Grated & Flakes	Total	Solid	Chunks	Grated & Flakes	Total	TOTAL	YEAR
1950	1,540,822	513,020	—	2,053,842	2,601,993	4,201,704	—	6,803,697	8,857,539	1950
1951	1,033,902	529,851	—	1,563,753	1,880,053	4,550,290	—	6,430,343	7,994,096	1951
1952	1,349,796	760,531	483,630	2,593,957	1,489,387	3,144,693	1,265,597	5,899,677	8,493,634	1952
1953	1,477,659	713,096	499,880	2,690,635	1,476,053	3,392,672	1,124,732	5,993,457	8,684,092	1953
1954	1,422,269	425,826	447,594	2,295,689	1,791,514	4,805,510	1,234,157	7,831,181	10,126,870	1954
1955	1,654,775	336,913	433,727	2,425,415	1,401,015	4,374,343	868,641	6,643,999	9,069,414	1955
1956	1,887,438	454,134	328,976	2,670,548	1,574,651	6,505,454	965,926	9,046,031	11,716,579	1956
1957	2,155,104	899,310	491,228	3,545,642	1,316,312	5,391,053	906,552	7,613,917	11,159,559	1957
1958	1,984,746	468,340	415,286	2,868,372	1,332,399	7,742,364	1,272,614	10,347,377	13,215,749	1958
1959	2,185,877	449,266	460,491	3,095,634	1,201,786	8,131,658	1,101,115	10,434,559	13,530,193	1959
1960	2,571,359	1,010,772	494,332	4,076,463	986,153	9,134,416	1,108,402	11,228,971	15,305,434	1960
1961	2,575,010	844,514	471,907	3,891,431	1,094,750	9,678,056	1,103,467	11,876,273	15,767,704	1961
1962	2,755,045	1,428,438	601,071	4,784,554	1,433,216	9,614,491	1,185,667	12,233,374	17,017,928	1962
1963	3,537,068	1,060,232	668,871	5,266,171	645,622	9,712,549	931,478	11,289,649	16,555,820	1963
1964	3,517,340	1,963,501	501,425	5,982,266	1,002,068	9,952,429	752,240	11,706,737	17,689,003	1964
1965	3,650,549	1,985,700	524,687	6,160,936	1,196,272	10,071,458	670,138	11,937,868	18,098,804	1965
1966	3,739,290	2,304,662	530,131	6,574,083	1,084,757	11,449,794	844,933	13,379,484	19,953,567	1966
1967	3,980,476	2,183,351	528,230	6,692,057	868,959	11,167,976	952,644	12,989,579	19,681,636	1967
1968	3,704,454	2,366,488	468,997	6,539,939	1,266,587	11,522,250	682,914	13,471,751	20,011,690	1968
1969	4,261,305	1,928,561	535,468	6,725,334	1,235,113	11,531,740	605,452	13,372,305	20,097,639	1969
1970	4,696,060	1,873,744	424,515	6,994,319	1,535,639	12,662,957	870,425	15,069,021	22,063,340	1970
1971	4,017,897	2,311,862	423,276	6,753,035	1,070,624	13,545,365	835,949	15,451,938	22,204,973	1971
1972	6,811,418	2,251,978	465,710	9,529,106	2,012,981	18,775,190	892,825	21,680,996	31,210,102	1972
1973	6,389,185	1,825,834	539,032	8,754,051	1,734,791	20,558,426	1,058,323	23,351,540	32,105,591	1973
1974	6,329,053	1,348,817	484,456	8,162,326	1,810,202	22,235,539	1,155,866	25,201,607	33,363,933	1974
1975	3,894,434	884,482	234,653	5,013,569	1,335,316	19,971,267	481,499	21,788,082	26,801,651	1975
1976	4,757,090	950,468	258,115	5,965,673	1,495,922	22,350,310	492,584	24,338,816	30,304,489	1976
1977	4,615,000	1,390,000	216,000	6,221,000	1,664,000	19,468,000	307,000	21,439,000	27,660,000	1977
1978	5,578,916	1,265,543	275,754	7,120,213	1,690,372	26,435,590	388,966	28,514,928	35,635,141	1978
1979	4,493,388	1,033,292	278,242	5,804,922	1,341,195	23,976,226	300,138	25,597,559	31,402,481	1979
1980	NA	NA	NA	5,531,000	NA	NA	NA	25,321,000	30,852,000	1980

★48 halves per case.
Note: 1980 data are preliminary.
Source: NMFS

FISH WASTE OR CRAB WASTE PROBLEMS?



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TUNA *(continued from page 47)*

label has been bought by Star-Kist from Westgate California, which may raise their share to about 30 percent. The C.H.B. brand has a lesser market share.

• Ralston in its recent annual report stated: "To help protect our sourcing potential, Pescatum, S.A. de C.V., a Mexican fishing company which is 44 percent owned by Ralston Purina, purchased 10 purse seiners during the year which now sail under the Mexican flag.

"Our tunaboat construction program, whereby we build vessels and sell them to companies with independent fishermen, continues to suffer delay as the result of a strike." The Burton shipyard at Port Arthur, Tex., has delivered only one of the seven 1,200-ton capacity tunaboats ordered by Ralston for Van Camp. The two-year-long strike continues to drag on and the prospects are dismal.

Van Camp's tuna and pet food (from tuna) sales last year totaled $345.8 million for 7.1 percent of Ralston's business, up from 1979's $330.5 million.

• Dr. James Joseph, director of the Inter-American Tropical Tuna Commission, reported the total catch of the 16 flag nations in the eastern Pacific fishery last year was 362,987 short tons of tuna. Yellowfin accounted for 183,415 tons, skipjack for 152,777 and the lesser species (bigeye, bluefin, bonito, albacore and black skipjack) for 26,799 tons.

Joseph gave the catch figures for individual nations only from the Conservation Yellowfin Regulatory Area (CYRA). For the U.S., they were 192,573 tons, including 93,787 tons of yellowfin, 86,722 tons of skipjack and 12,000 tons of the lesser species.

He said, however, that the U.S. took at least 40,000 of the total 43,329 tons caught in the area west of the CYRA. This brings the U.S. catch for 1980 to 232,373 — 7,600 tons more than in 1979.

• The estimated ex-vessel value of the U.S. catch in the CYRA was approximately $225 million. The addition of the 40,000 tons caught west of the CYRA brings the total value to about $265 million.

From the basis of pricing, last year was an unusual one, in that the price paid by the canners remained the same throughout the year, at $1,200 a ton for yellowfin and $1,100 for skipjack. By contrast, the price escalated four times in 1979.

• The yellowfin catch for the international fleet in the CYRA was down about 40,000 tons last year, the lowest since 1971, said IATTC director Joseph.

"For the international fleet we didn't have a good year," commented Joseph. He blamed it on the low catch of yellowfin and this was due, he added, to overfishing the stocks.

The international fleet, he said, should return to the conservation program administered by the IATTC before Mexico and Costa Rica dropped out of the then eight-nation commission. In 1979 when he had the authority to close the season, it was too late to be effective.

"We've had no real yellowfin conservation in the last three years," he regretted, adding there will be none again this year "because the governments in the eastern Pacific can't get together on a mechanism for implementing a conservation quota that was agreed to."

• Joseph foresees more problems of access to coastal zones where the fish are concentrated, and he reminds that "Mexico is going to terminate their bilateral agreement with the U.S. that allows small boats to fish inside Mexico's waters (12 miles). That will take effect within a year and have a big impact on small boats."

As to larger vessels, he says, "Mexico will look at the licensing of foreign vessels from the view of what the stocks can sustain."

He noted that Mexico now has 46 purse seiners with 35,162 tons capacity and six baitboats with 700 tons, more than double a year ago. He predicted that "probably a year from now Mexico will have a fleet capacity of 45,000 tons."

Seizures by Mexico, Ecuador and Peru for fishing without a license cost American boats nearly $8 million last year.

• The U.S. again took a major share of the catch last year, with its 192,573 tons in the CYRA. Mexico was second with 36,532 tons, and Ecuador third with 20,810 tons. The Netherlands Antilles with 11,314 tons, and Panama with 10,219 tons were far ahead of the rest of the nations.

W.C.M.

United States Tuna and Bonito Packs

(STANDARD CASES ★)

YEAR	ALBACORE	LIGHTMEAT	BONITO	TOTAL
1940	383,868	3,610,602	193,990	4,188,460
1941	307,788	2,249,134	374,659	2,931,581
1942	560,206	1,844,702	79,841	2,484,749
1943	813,473	1,798,843	83,757	2,696,073
1944	859,046	1,146,768	29,143	2,034,957
1945	1,215,180	3,226,921	89,464	4,531,565
1946	658,211	3,938,418	187,855	4,784,484
1947	716,029	4,661,530	446,941	5,824,500
1948	1,299,243	5,364,376	374,139	7,037,758
1949	1,466,849	5,587,270	159,867	7,218,986
1950	2,053,842	6,803,697	71,943	8,929,482
1951	1,563,753	6,430,343	105,451	8,099,547
1952	2,593,957	5,899,677	227,000	8,720,634
1953	2,690,635	5,993,457	172,967	6,427,059
1954	2,295,689	7,831,181	78,049	10,204,919
1955	2,425,415	6,643,999	4,815	9,074,229
1956	2,670,548	9,046,031	6,859	11,723,438
1957	3,545,642	7,613,917	12,079	11,171,638
1958	2,868,372	10,347,377	111,371	13,327,120
1959	3,095,634	10,434,559	57,505	13,587,698
1960	4,076,463	11,228,971	14,423	15,319,857
1961	3,891,431	11,876,273	159,065	15,926,769
1962	4,784,554	12,233,374	31,935	17,049,863
1963	5,266,171	11,289,649	71,541	16,627,361
1964	5,982,266	11,706,737	24,674	17,713,677
1965	6,160,936	11,937,868	48,253	18,147,057
1966	6,574,083	13,379,484	229,014	20,182,581
1967	6,692,057	12,989,579	311,346	19,992,982
1968	6,539,939	13,471,751	214,716	20,226,406
1969	6,725,334	13,372,305	252,548	20,350,187
1970	6,994,319	15,069,021	139,541	22,202,881
1971	6,753,035	15,451,938	285,027	22,490,000
1972	9,529,106	21,680,996	336,795	31,546,897
1973	8,754,051	23,351,540	534,309	32,639,900
1974	8,162,326	25,201,607	393,522	33,757,455
1975	5,013,569	21,788,082	660,537	27,462,188
1976	5,965,673	24,338,816	163,355	30,467,844
1977	6,329,165	22,177,082	471,196	28,977,443
1978	7,120,213	28,514,988	180,429	35,815,630
1979	5,804,922	25,597,559	75,533	31,478,014
1980	5,531,000	25,321,000	198,509	31,050,509

★48 halves per case.
Note: 1980 data are preliminary
Source: NMFS

United States Flag

NAME OF VESSEL/OWNER OR MANAGING OWNER	YEAR BUILT	HOMEPORT	RIG	GROSS TONNAGE
ADRIATIC SEA Star-Kist Foods, Inc.	1970	SJPR	P. Seiner	1558
AMERICAN EAGLE Agtek Int'l.	1975	Ptsb., PA	PS New	985
AMERICAN QUEEN Manuel Caboz	1972	SJPR	PS New	934
ANNE M 1st Bank of Oregon	1969	Astoria, OR	PS New	864
ANTHONY M Star Kist Foods, Inc.	1951	LA/LB	CPS	336
ANTONINA C Louis Castagnola, Inc.	1970	San Diego	PS New	755
APOLLO Star Kist Foods	1970	SJPR	PS New	1558
AQUARIUS Joseph Da Silva	1971	San Diego	PS New	1119
BARBARA H Arthur F. Haworth	1972	San Diego	BB	131
BERNADETTE Fred Boettcher	1946	San Diego	CPS	401
BOLD CONTENDER Bumble Bee Seafoods Co.	1971	SJPR	PS New	1245
BOLD PRODUCER Caribbean Marine	1975	San Diego	PS New	1183
BOLD VENTURE Bumble Bee Seafoods Co.	1968	SJPR	PS New	898
BRENDA JOLENE M & J Fishing, Inc.	1980	LA/LB	P. Seiner	1200
CABRILLO C.H.B. Foods, Inc.	1968	San Diego	PS New	864
CALYPSO Ed Gann	1972	SJPR	PS New	995
CAPE SAN VINCENT Bumble Bee Seafood Co.	1969	SJPR	PS New	864
CAPT. ANTON MIZETICH Ocean Fisheries, Inc.	1967	San Diego	PS New	763
CAPT. FRANK MEDINA Joe Medina	1980		P. Seiner	1200
CAPT. VINCENT GANN Bumble Bee Seafood Co.	1969	SJPR	PS New	999
CAPT. M. J. SOUZA	1979	San Diego	PS New	1171
CAROL S C.H.B. Foods, Inc.	1958	San Diego	CPS	438
CHARGER (ex DOMINATOR) Manuel Cobez	1974	San Diego	PS New	1073
CHERYL MARIE John Silveira	1969	San Diego	CPS	919
CHRISTINA C Joseph Cutri	1969	San Diego	PS New	509
CINDY ANN Frank Ferreira	1976	LA/LB	PS New	1159
CITY OF LOS ANGELES John Gargas	1945	LA	RPS	155
CITY OF SAN DIEGO Bumble Bee Seafoods Co.	1964	SJPR	PS New	896
CLAIRE P C.H.B. Foods, Inc.	1977	San Diego	PS New	1159
CLAUDIA B John Balelo	1971	San Diego	PS New	1119
COMMODORE C.H.B. Foods, Inc.	1942	San Diego	CPS	311
CONCHO C.H.B. Foods, Inc.	1955	San Diego	CPS	438
CONNECTICUT YANKEE Agtek Int'l.	1974	SJPR	PS New	958
CONNIE JEAN Ocean Fisheries, Inc.	1966	San Diego	PS New	735
CONQUEROR M. Correia	1980	San Diego	P. Seiner	1200
CONQUEST Joseph Madruga	1973	San Diego	PS New	971
CONQUISTADOR Zapata Ocean Resources, Inc.	1971	SJPR	PS New	1231
CONSTELLATION Agtek Int'l.	1973	SJPR	PS New	958
CONSTITUTION C.H.B. Foods, Inc.	1978	San Diego	PS New	1200
DISCOVERER (ex ZAPATA DIS.) Harold Medina	1976	SJPR	PS New	1499
CONTE BIANCO Mosich/Villich Corp.	1951	San Diego	CPS	375
CYVONES Arturo Ulloa	1967	San Diego	BB	124
DANICA Star Kist Foods, Inc.	1971	SJPR	PS New	1110
DIANA C Cosimo L. Cutri	1968	San Diego	PS New	671
DON JUAN (ex SOUTH PACIFIC Star Kist Foods, Inc.	1974	San Diego	PS New	1166
DONNA B Erwin W. Blocker	1974	LA/LB	BB	199
DORIS E Ray H. Gale	1972	LS	BB	123
EASTERN PACIFIC Ocean Fisheries, Inc.	1965	San Diego	PS New	724
EL CID John Burich	1942	SJPR	CPS(MH)	836
ELIZA M Star Kist Foods, Inc.	1971	SJPR	PS New	1110
ELIZABETH C.J. Manuel Jorge	1975	San Diego	PS New	1498
EL REY James De Silva	1973	SJPR	Seiner	978
ELSINORE Philip J. Folando	1956	San Diego	CPS	358
ENTERPRISE Del Monte De P.R., Inc.	1971	SJPR	PS New	896
EVELYN DA ROSA Evelyn Da Rosa, Inc.	1972	San Diego	PS New	1063
FALCON Agtek Int'l.	1974	SJPR	PS New	958
FRONTIER Joseph Madruga	1978	San Diego	PS New	1200
GEMINI Van Camp Seafood Co.	1971	SJPR	PS New	1274
GINA ANNE Caribbean Marine	1974	San Diego	PS New	1308
GINA KAREN Vito Romani	1969	San Diego	PS New	722
GINA MARIE Bumble Bee Seafoods	1970	San Diego	PS New	863
GRENADIER Agtek Int'l.	1975	Ptsb., PA	PS New	985
HISTORIC Star Kist Foods, Inc.	1951	LA/LB	CPS	291

High Seas Tuna Fleet

NAME OF VESSEL/OWNER OR MANAGING OWNER	YEAR BUILT	HOMEPORT	RIG	GROSS TONNAGE
HORNET III Roland Virissimo	1975	LA/LB	PS New	985
INDEPENDENCE Diane Kruger	1955	San Diego	CPS	438
JANEA Corky Smithson	1966	San Diego	BB	132
JEANETTE DIANE (ex SOUTHERN PACIFIC) Cosimo L. Cutri	1973	SJPR	PS New	1073
JEANNA LYNN Jeanna Lynn, Inc.	1947	LA/LB	CPS	458
JEANNE ANN John Potous	1972	San Diego	BB	119
JEANNE LOU Alvaro R. Virissimo	1975	SJPR	PS New	985
JEANNINE Zolezzi Enterprises, Inc. Julius H. Zolezzi	1974	SJPR	PS New	1189
JO ANN Charles L. Whitney	1945	San Diego	JCPS	315
KALI Star Kist Foods, Inc.	1971	SJPR	PS New	1108
KAREN KRISTIE Robert J. Pringle	1975	LA/LB	BB	190
KATHERYN ANN John L. Potous	1972	San Diego	BB	116
KERRI M Star Kist Foods, Inc.	1969	San Diego	PS New	923
LAURA ANN	1979	San Juan	PS New	1200
LAURIE ANN Star Kist Foods, Inc.	1957	San Diego	CPS	438
LIBERATOR Liberator Fishing Co.	1975	LA/LB	CPS	194
LIBERTY BELL (Sank 1978)				
LINDA ROSE Anthony D. Rose	1974	San Diego	BB	159
LONE WOLF	1980		P. Seiner	
LUCKY STRIKE C.H.B. Foods, Inc.	1973	San Diego	PS New	971
MARANATHA Stanley J. Jones	1974	LA/LB	BB	159
MARGARET L. (Sank 1978)				
MARIA C.J. Manuel Jorge	1972	San Diego	PS New	914
MARIETTA Julius H. Zolezzi	1968	San Diego	PS New	863
MARJORIE R Agtek Int'l.	1974	Detroit, MI	PS New	989
MARLA MARIE Thomas Crivello	1959	San Diego	PS New	438
MARTI B Bernard J. Blocker	1973	LA/LB	BB	198
MARY ANTOINETTE John B. Zolezzi, Jr.	1969	San Diego	PS New	863
MARY CARMEN (Inactive)				
MARY JO Joseph Rogers	1959	San Diego	CPS	361
MARY LUCILLE (ex CITY OF LISBON) Raul Lira	1971	SJPR	PS New	971
MARY S Frank Souza	1971	SJPR	PS New	916
MAURITANIA Steve J. Villicich	1948	Tacoma, WA	CPS	438
MERMAID Leo Correia	1944	San Diego	PS New	885
MICHELANGELO				
MONTANA Joseph Madruga	1977	San Diego	PS New	1200
NAUTILUS (Inactive)				
OSPREY Agtek Int'l.	1973	SJPR	PS New	958
PACIFIC PRINCESS Avelino Gonsalves	1978	San Diego	PS New	1200
PACIFIC QUEEN Bumble Bee Seafoods Co.	1967	SJPR	PS New	864
PACIFIC SUN Freeman Easton	1973	Houma, LA	BB	149
PACIFIC TROJAN M.D. Day	1959	LA/LB	BB	141
PAN PACIFIC C.H.B. Foods, Inc.	1972	San Diego	PS New	999
PARAMOUNT Joseph Murat	1946	LA/LB	CPS	418
PHOENIX Del Ray Sportfishing	1974	LA/LB	BB	115
PIONEER Bernard Mattera	1944	LA/LB	RPS	163
PISCES (ex JOHN F. KENNEDY) Leo Correia	1970	San Diego	PS New	863
PRISCILLA M Star Kist Foods, Inc.	1971	SJPR	PS New	1092
PROUD HERITAGE M/V Sea Quest Inc. Manuel A. Silva	1973	San Diego	PS New	972
QUEEN MARY Joe M. Medina, Jr.	1969	San Diego	PS New	722
RAFFAELLO Ocean Fisheries, Inc.	1972	SJPR	PS New	997
RHONDA SUE Charles F. Smith	1972	LA/LB	RPS	192
RONNIE M Ronnie M., Inc.	1941	LA/LB	RPS	192
ROSA D Pete D'Amato	1976	SJPR	Seiner	1499
ROSA OLIVIA Ed Gann	1971	SJPR	PS New	916
ROSE ANN MARIE (ex MARY ELIZABETH) Thomas Crivello	1971	SJPR	PS New	961
ROSALIE MARIE (ex MISSOURI) Joe De Luca	1955	San Diego	CPS	440
ROYAL PACIFIC Alvin Perreira	1973	SJPR	PS New	1072
SANDRA C Agtek Int'l.	1973	Detroit, MI	PS New	989
SANTA ELENA Emanuel Terzoli	1957	San Diego	CPS	400
SANTA ROSA John Gomes	1945	San Diego	CPS	357
SANTINA C. Cosimo L. Cutri	1969	San Diego	PS New	724
SARATOGA Manuel Vargas, Jr.	1972	San Diego	PS New	1241

(Continued on page 52)

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HIGH SEAS TUNA FLEET

(Continued from page 52)

NAME OF VESSEL/OWNER OR MANAGING OWNER	YEAR BUILT	HOMEPORT	RIG	GROSS TONNAGE
SCORPIO (ex MARCO POLO) Lionel Souza	1971	San Diego	PS New	1120
SEA ENCOUNTER	1979	San Diego	PS New	1120
SEA GEM Raymond Medeiros	1976	LA/LB	PS New	1189
SEA HAWK Richard Madruga	1976	San Diego	PS New	985
SEA QUEST M/V Sea Quest Inc. Manuel A. Silva	1970	San Diego	PS New	758
SEA SCOUT Sea Scout Fishing, Inc.	1945	LA/LB	RPS	158
SEA TREASURE Bumble Bee Seafoods	1973	San Diego	PS New	1070
SEA WOLF Cosimo Cutri	1971	San Diego	Seiner	906
SHAPACY Erwin W. Blocker	1972	San Diego	BB	199
SOUTHERN EXPLORER John M. Zankich	1944	LA/LB	CPS	183
SOUTHERN QUEEN Anthony Mascola	1947	San Diego	CPS	199
STACIE ANTONETTE Stan Levitz	1975	San Diego	PS New	1188
STARCREST C.H.B. Foods, Inc.	1949	San Diego	CPS	199
TAURUS Corky Smithson	1972	San Diego	BB	199
THERESA JANENE Stan Levitz	1974	San Diego	PS New	1192
TIFAIMOANA	1979	San Diego	PS New	1434
TOP WAVE C.H.B. Foods, Inc.	1973	San Diego	PS New	971
TRADITION M.A. Silva	1980	LA/LB	P. Seiner	1200
UNCLE LOUIE Louis Castagnola Inc.	1978	San Diego	PS New	1200
UNITED STATES C.H.B. Foods, Inc.	1957	San Diego	CPS	679
VAGABOND (Sold to Anchovy Fishery 1977)				
VENTUROUS Pete Castagnola	1971	SJPR	PS New	914
VOYAGER Frank Gargas	1972	SJPR	PS New	1472
WESTERN PACIFIC Ben Fukuzaki & Leslie Chikami	1975	San Diego	Seiner	985
WESTPORT C.H.B. Foods, Inc.	1956	San Diego	CPS	363
WHITE STAR Bob Thrall	1944	SJPR	CPS	836
WILLA G Gino Guidi	1968	San Diego	PS New	715

International Tuna Fleet Landings in the IATTC Controlled Pacific

(SHORT TONS)

AREA AND FLAG	YELLOWFIN 1979	YELLOWFIN 1980	SKIPJACK 1979	SKIPJACK 1980	BIGEYE 1979	BIGEYE 1980	BLUEFIN 1979	BLUEFIN 1980	BONITO 1979	BONITO 1980	ALBACORE 1979	ALBACORE 1980	BLACK SKIPJACK 1979	BLACK SKIPJACK 1980	OTHER 1979	OTHER 1980
Bermuda	1,793	1,927	4,249	939	4								300	872	2	
British		1,624		1,160		844										
Canada	319		1,476										65			
Costa Rica	3,833	2,054	5,557	2,333	8								159	110	5	8
Ecuador	10,724	7,326	19,441	8,702	2,032	2,712			8	3			296	1,830	200	237
Japan	1,067	833														
Korea	1,646	539	935	240		4							32	10		
Mexico	25,196	20,032	5,128	13,339		698	235	621	266	1,594		13	2		14	236
Netherlands A.	9,557	5,522	9,897	5,752	64									40	1	
Panama	9,128	5,694	6,108	4,151	1,061	367							10	7		
Peru	1,504	384	1,141	217	391				137				4	19	985	163
U.S.A.	117,757	93,787	76,882	86,722	3,915	2,871	6,402	2,507	1,594	5,977	326	317	621	244	84	98
Other Flags	12,461	11,560	11,632	7,085	684	3,518							9	197	68	65
Total CYRA	194,985	151,282	142,446	130,641	8,159	11,013	6,637	3,128	2,005	7,574	326	330	1,498	3,329	1,359	807
West of CYRA E of 150°W, All Flags	15,149	25,626	3,054	17,339	133	362							4	2		
Pacific, W of 150°W, all flags	199	227	6,042	6,719	7	1										
Atlantic, all flags	3,491	6,507	3,097	4,793	234	222	644				2	18	3	14		
Total ETP fleet	213,824	183,642	154,639	159,492	8,533	11,598	7,281	3,128	2,005	7,574	328	348	1,505	3,345	1,359	807

Note: 1980 data preliminary
Source: Inter-American Tropical Tuna Commission

Continental Landings of Domestic Caught Tuna

(SHORT TONS)

YEAR	TRIPS	ALBACORE	BLUEFIN	SKIPJACK	YELLOWFIN*	BONITO	TOTAL	YEAR
1961	662	13,610	9,909	38,861	98,525	3,463	162,418	1961
1962	552	16,629	15,261	46,699	62,296	804	141,689	1962
1963	576	21,491	14,702	48,209	54,807	1,633	140,842	1963
1964	531	18,694	11,531	32,922	73,608	774	137,429	1964
1965	594	10,775	7,664	42,106	78,151	1,929	140,625	1965
1966	579	10,944	17,010	25,434	65,991	6,647	126,026	1966
1967	617	12,127	6,468	54,987	70,296	9,033	152,911	1967
1968	522	14,105	6,206	29,606	76,205	6,079	132,201	1968
1969	623	11,813	7,234	22,801	101,478	7,283	150,609	1969
1970	668	17,361	4,092	38,049	115,632	3,670	178,804	1970
1971	591	15,541	8,496	50,338	80,236	9,922	164,533	1971
1972	634	17,498	12,459	18,006	118,283	11,476	177,722	1972
1973	532	11,679	9,827	14,796	116,988	14,084	167,374	1973
1974	546	20,457	5,496	29,994	123,231	7,661	186,839	1974
1975	515	18,043	7,559	36,852	117,100	15,743	195,297	1975
1976	577	17,145	9,658	64,623	141,471	3,912	236,809	1976
1977	470	11,693	3,312	40,727	99,995	10,904	166,631	1977
1978	507	16,691	4,802	70,970	101,730	3,457	197,650	1978
1979	528	6,913	6,123	56,760	105,604	1,810	177,210	1979
1980	447	7,691	2,355	87,283	96,256	6,487	200,072	1980

*Includes bigeye and blackfin.
Note: Data prior to 1976 is for California only.
Source: NMFS

Tuna Prices Paid Fishermen

(DOLLARS)

YEAR	ALBACORE	YELLOWFIN	BLUEFIN	SKIPJACK
1950	400	310	300	290
1951	400-250-300	310	300	290
1952	350	320	310	280
1953	400	320	310	280
1954	400-410	350-330	340-320	320-290
1955	350-310-330	330-270	320-210	290-230
1956	375-300	270	280-260	230
1957	310-280-300	270-230-270	260-200-260	230-190-230
1958	425	275-283-263	260	235-252-223
1959	435-400	270-240-253	260-240	230-200-217
1960	325-375	250	250	210
1961	325-375	240-290	220-280	210-260
1962	200-310	300-290	280-250	260-250
1963	275-325	290-240	250-220	250-200-210
1964	300-325	245-270	240	200
1965	300-325	245-336	240-267	200-286
1966	375-390	315-480	290-311	260-392
1967	390-400	265-358	235-280	205-293
1968	425	307-318-315	292-298-295	257-268-265
1969	450	321-332	210-309	271-284
1970	550	346-397	326-377	396-347
1971	630	411-425-421	391-405-403	261-376
1972	680	442-445	422-425	405-408
1973	830	477-501	457-481	447-471
1974	820	575	555	535-545
1975	675	580-500	480	540-450
1976	675-1000	580-630	560-595	513-590
1977	1,165	665-840	645-820	620-790
1978	1,165	790-840	820	690-790
1979	1,390	810-950	930	545-850
1980	1,635	1,100-1,200	1,180	800-1,100

Note: Prices quoted are per short ton round fish in good condition landed at canner dock.
Source: NMFS

United States Tuna Packs

(STANDARD CASES*)

YEAR	CALIFORNIA	OREGON AND WASHINGTON	HAWAII, PUERTO RICO, AM. SAMOA, MARYLAND	TOTAL
1960	10,714,911	1,473,540	3,116,983	15,305,434
1961	10,545,568	1,261,666	3,960,470	15,767,704
1962	10,511,164	1,471,189	5,035,575	17,017,928
1963	9,074,754	1,487,036	5,994,030	16,555,820
1964	9,292,629	1,503,283	6,893,091	17,689,003
1965	9,012,710	1,760,757	7,325,337	18,098,804
1966	9,613,331	1,540,670	8,799,566	19,953,567
1967	8,962,412	1,508,537	9,210,687	19,681,636
1968	9,042,920	1,778,382	9,190,388	20,011,690
1969	8,990,094	1,656,951	9,450,594	20,097,639
1970	10,567,515	1,588,905	9,906,920	22,063,340
1971	9,735,943	1,422,117	11,046,913	22,204,973
1972	13,011,296	1,887,008	16,311,798	31,210,102
1973	13,920,431	1,687,610	16,497,550	32,105,591
1974	14,331,606	1,86[illegible]	17,170,234	33,363,933

YEAR	CONTINENTAL	HAWAII, PUERTO RICO AMERICAN SAMOA	TOTAL	YEAR
1975	13,025,544	13,776,107	26,801,651	1975
1976	15,921,290	14,383,199	30,304,489	1976
1977	12,605,000	15,054,907	27,660,237	1977
1978	16,591,000	19,989,132	35,580,132	1978
1979	14,222,000	17,559,000	31,781,000	1979
1980	14,604,000	16,248,000	30,852,000	1980

*48 halves per case.
Note: 1975 begins new reporting system and is comparable only in totals for year. 1980 data preliminary.
Source: NMFS

INTEGRATION *(cont. from page 37)*
pete with foreigners. Rather it is their ability to utilize 100 percent of the product landed through the production of minced flesh and fish meal, while traditionally U.S. fleets toss back fish too small to fillet and the frame of the filleted carcass. "The key to future success of the U.S. bottomfishery will be our ability to amortize the catch over total utilization of the raw material rather than 25 percent in the form of fillets."

Assuming 100 percent utilization of fish landed, the decision must be made as to what stage of processing will be done onboard. Mincing flesh creates a problem because of its limited shelf life. "In fact, some of this stuff wouldn't last until you got it down here to process it," warns Pigott. Shelf life is shortened because deboning flesh from a filleted carcass ruptures cells. Since utilization of minced flesh is in the consumption of a formulated product, such as fish pastes as additives to hot dogs, or batter breaded fish sticks, economics of transportation and storage dictate that final processing and formulation be done at one site, preferably shoreside. Preliminary processing in the form of heading and gutting and subsequent freezing into blocks is easily handled and accommodated by limited space onboard. Blocks may be held until a vessel is full, or offloaded to a tramper, delivering the product shoreside for final treatment. Pigott points out that vanloads of frozen blocks can be set on wheels and transported anywhere in the country for finish processing.

Presently bottomfish converters in the midwest and east import frozen blocks of fillets for preparation of batter breaded foods. As U.S. fleets displace foreign suppliers, and land frozen blocks of headed and gutted fish, pressure will be put on these companies to update their facilities to accommodate the U.S. product. Their plants will need to add fillet machines and minced lines, "putting these inland companies into the processing as well as the product preparation," says Pigott.

Overall, the nature of bottomfish processing creates a relationship between fishing vessels and shoreside plants entirely different from that of seasonal fisheries and high priced fish, the backbone of the present industry. Five years ago a vessel owner wishing to incorporate with a processor had a weak bargaining position. Pigott envisions the vessel owner saying to the processing plant owner, "'We're going to pool our interests and sell on the market and we'll make this one corporate structure. I have got a $50,000 vessel and you've got a five million dollar plant. The only way I can supply your plant is with 10 to 20 to 50 of these vessels.' You have one to five people on the processing side and 50

owning fishing vessels. If this person (the processor) owns over half the assets in the company, there is no way in the world you're going to get an equitable situation."

"Today you're sitting there with your five million dollar plant and the owner of a factory trawler comes along and says, 'Fine, I've got seven and a half million dollars and I can supply your whole bloody plant with one vessel.' This is what makes it now feasible for us to go into corporate structure. The processors have become secondary processors, they are no longer primary processors."

Vertical integration may be feasible and applicable to bottomfish development, but a major obstacle is the capital required to set up such a structure. Perhaps typical is fisherman Ken Petersen with the America No. 1, "like a cat on top of the fence, waiting for some firm ground to light upon," as he describes himself. Insisting on processing and controlling their own product, the vessel's owners are strapped by high interest rates, deterring them from building a one million dollar plant which will mince flesh to produce a fish paste. "We have the markets, we have the vessels, we don't have the plant," says Petersen. "The rent on your money is so high, borrow a million dollars and in five years you are paying back one and three quarter million."

"The amount of investment required to get good quality fish to the U.S. market at the lowest price is five times the cost of a single operating trawler," comments naval architect Thomas Lamb, whose involvement with factory trawlers dates back to the first one for the U.S., the Seafreeze Atlantic, presently the Arctic Trawler. "I would like to see a marriage between the big distributing companies and the fishermen. It's nice that you can own your own boat, but that day may be gone and instead it may be necessary for new companies to develop. The skipper may own shares in the company but whether he operates boat A or boat B is irrelevant."

A vertically integrated structure allows and attracts investment from outside the fishing industry, according to attorney Greg Dahl, because "there is this cooperative relationship instead of the adversary relationship at each step in the chain. Money is going to come from outside the fishing industry; from segments of the business community that maybe are related to the food industry, but not specifically the fishing industry."

Unlike past Japanese investment in the crab and salmon industries, money is not exactly pouring in from big food companies for the development of bottomfish. Why should it be when they

(Continued on page 92)

Continental Imports of Frozen Tuna

(SHORT TONS)

YEAR	ALBACORE	BLUEFIN	SKIPJACK	YELLOWFIN	TOTAL
1961	15,602	639	5,172	30,572	61,985
1962	16,084	725	2,397	45,325	64,531
1963	8,488	1,179	4,674	24,720	39,061
1964	16,716	1,839	3,208	26,937	48,700
1965	22,189	415	2,858	19,686	45,148
1966	24,412	1,576	7,215	30,531	63,734
1967	21,749	1	2,170	13,332	37,252
1968	23,725	40	771	30,161	54,697
1969	22,829	185	1,449	18,241	42,704
1970	15,656	435	10,977	15,337	42,405
1971	12,986	1,292	26,209	9,633	50,120
1972	31,222	2,780	42,642	18,286	94,930
1973	24,376	3,663	89,199	23,386	140,624
1974	24,819	576	79,988	10,314	115,697
1975	7,066	802	21,351	13,549	42,768
1976	34,808	891	40,960	16,318	92,977
1977	8,810	1,085	64,223	20,110	94,228
1978	15,503	221	72,279	37,314	125,317
1979	13,312	54	68,490	24,737	106,593
1980	11,485		79,503	16,352	107,340

Note: Data prior to 1976 is for California only.
Source: NMFS

North Pacific Albacore Landings

(POUNDS)

YEAR	OREGON	WASHINGTON	CALIFORNIA	TOTAL	YEAR
1961	3,251,000	456,000	29,123,000	32,830,000	1961
1962	8,936,000	365,000	36,622,000	45,923,000	1962
1963	11,413,000	527,000	48,860,000	60,800,000	1963
1964	4,452,000	1,055,000	42,551,000	48,058,000	1964
1965	12,122,000	2,048,000	23,218,000	37,388,000	1965
1966	18,041,000	1,101,000	18,189,000	37,331,000	1966
1967	29,243,000	1,240,000	17,858,000	48,341,000	1967
1968	37,752,000	3,050,000	15,077,000	55,879,000	1968
1969	29,828,000	3,561,000	14,722,000	48,111,000	1969
1970	21,779,000	4,390,000	29,932,000	56,101,000	1970
1971	8,420,000	5,250,000	36,082,000	49,752,000	1971
1972	23,056,000	16,238,000	8,458,000	39,254,000	1972
1973	16,349,895	10,200,000	1,064,000	27,613,895	1973
1974	25,225,000	17,983,000	11,700,000	54,908,000	1974
1975	15,558,000	15,060,000	8,304,000	38,992,000	1975
1976	5,933,612	7,202,000	27,759,376	40,894,944	1976
1977	4,425,000	4,948,000	15,000,000	24,373,000	1977
1978	11,248,342	5,008,000	21,000,000	37,256,342	1978
1979	3,105,381	861,978	8,000,000	11,967,359	1979
1980	3,467,772	1,286,680	9,500,000	14,254,452	1980

Note: 1980 data preliminary.
Source: State Fisheries Agencies

Puerto Rico Tuna Deliveries

(SHORT TONS)

YEAR	ALBACORE	BLUEFIN	SKIPJACK	YELLOWFIN*	TOTAL
1964	29,819	2,161	27,304	32,583	91,867
1965	26,540	1,173	41,913	24,037	93,663
1966	30,638	643	41,283	40,459	113,023
1967	26,863	680	60,828	32,065	120,436
1968	25,059	—	44,976	56,625	126,660
1969	35,759	—	36,900	52,256	124,915
1970	41,780	244	30,738	52,716	125,478
1971	41,451	929	77,784	48,786	168,950
1972	62,279	756	73,619	92,507	229,161
1973	55,229	110	85,323	94,362	235,024
1974	53,861	159	140,291	82,756	277,067
1975	28,393	380	100,463	90,796	220,032
1976	47,254	154	109,043	93,910	250,361
1977	48,488	217	95,061	86,569	230,335
1978	64,436	278	156,295	67,362	288,371
1979	52,075	555	117,401	62,923	232,954
1980	46,165	62	120,857	57,017	224,101

*Includes bigeye and blackfin.
Source: NMFS

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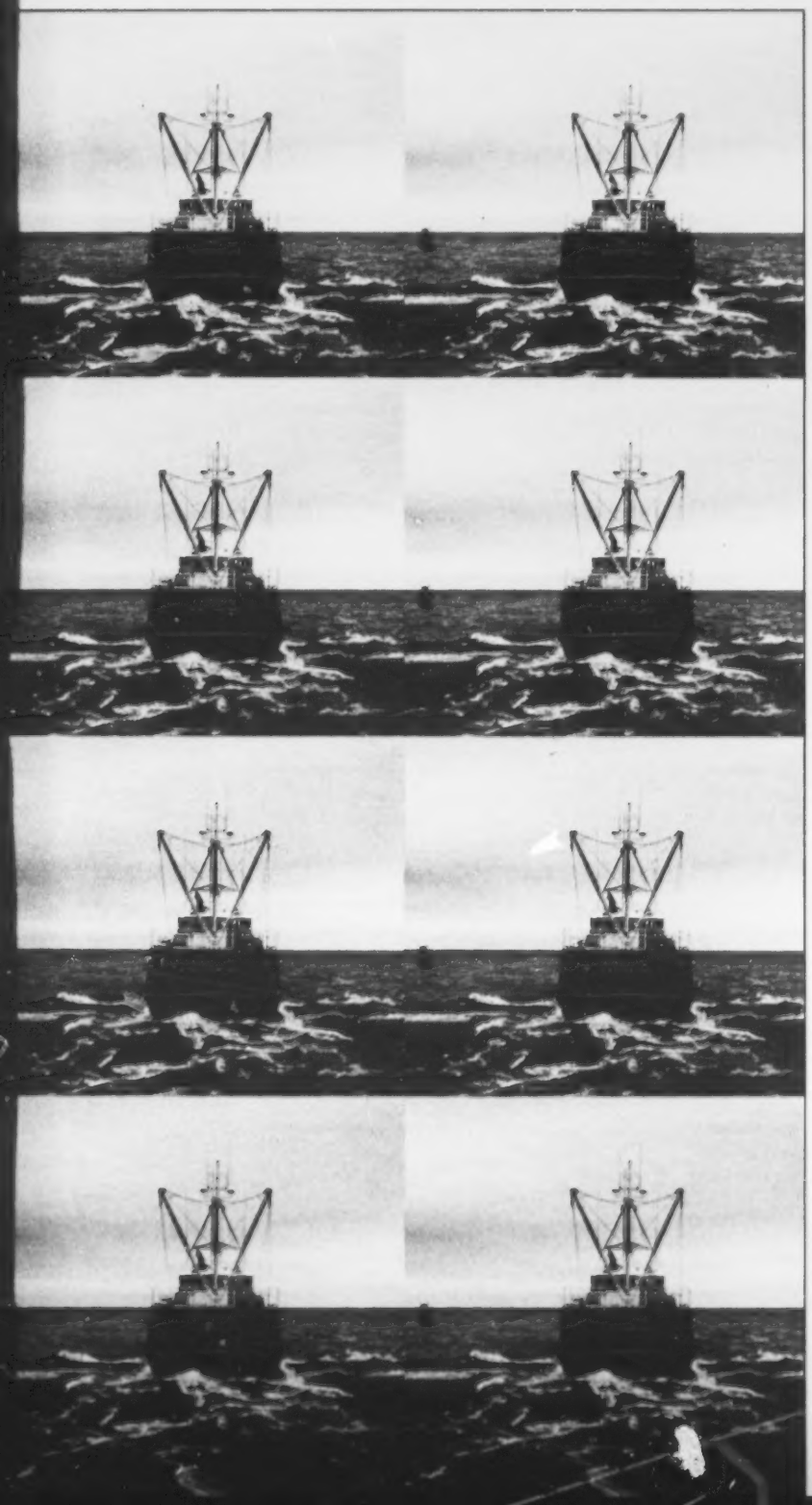

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Continental Imports of Frozen Tuna by Country of Origin

(SHORT TONS)

	ALBACORE		BLUEFIN		SKIPJACK		YELLOWFIN*		TOTAL	
COUNTRY	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
Canada	20	73	—	—	—	—	—	—	20	73
Chile	—	5	—	—	—	—	—	—	—	5
Fiji Islands	—	2,048	—	—	—	—	328	760	328	2,808
Ghana	—	—	—	—	1,983	—	485	—	2,468	—
Guam	—	—	—	—	1,294	1,280	210	245	1,504	1,525
India	—	—	—	—	163	—	21	—	184	—
Indonesia	—	—	—	—	618	4,811	—	652	618	5,463
Japan	6,890	3,955	—	—	9,406	34,498	1,288	2,960	17,584	41,413
Malaysia	—	106	—	—	—	—	—	—	—	106
Maldive Islands	—	—	—	—	—	536	—	183	—	719
Mexico	—	—	54	—	11,690	5,681	15,901	5,602	27,645	11,283
New Guinea	—	—	—	—	—	233	—	102	—	335
New Zealand	771	1,402	—	—	836	987	—	129	1,607	2,518
Palau Island	—	—	—	—	2,172	333	154	67	2,326	400
Papua	—	—	—	—	4,983	1,295	254	193	5,237	1,488
Philippines	60	37	—	—	19,910	17,874	5,382	4,301	25,352	22,212
Singapore	3,613	3,445	—	—	1,099	4,963	406	402	5,118	8,810
Solomon Islands	—	—	—	—	13,973	6,526	32	72	14,055	6,598
South Korea	372	414	—	—	363	465	126	461	861	1,340
Tahiti	602	—	—	—	—	—	66	—	668	—
Taiwan	984	—	—	—	—	21	34	223	1,018	244
TOTAL (as received)	13,312	11,485	54	—	68,490	79,503	24,737	16,352	106,593	107,340
TOTAL (rnd. wt. basis)**	13,682	12,104	54	—	69,187	79,812	26,229	16,804	109,152	108,720

*Includes bigeye tuna.

**Converted to round weight by using factors of 1.11 for gilled and gutted; 1.25 for dressed, heads-off; 2.00 for raw fillets; and 2.25 for cooked loins.

Note: Cumulative and Comparative import data reported by the U.S. Customs Service. Data reflect the origin of shipments and not, necessarily, the flag of the catcher vessel.

Source: NMFS

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Circle number 82 on the Reader Inquiry Card

The American seafood industry may one day supplement traditional seafood products with quality minced fish products similar to Japanese kamaboko, manufactured from pollock. Full development of the American industry may depend upon it.

MICHAEL NAKAMURA

Asked what it may take to fully develop the American seafood industry, a fish processor, broker or fisherman may answer with solutions ranging from more efficient trawl equipment to innovative marketing schemes.

There may be a simple answer, one the Japanese found long ago. Fully utilize all parts of fish taken aboard through deboning technology and production of minced fish and surimi.

The concept of full utilization not only sounds good ethically (after all, the world demand for protein is expected to double in four decades), it also makes economic sense. If the industry does not learn to fully utilize low value, high volume fish like Alaska pollock, it may never reach its potential.

"U.S. development of an Alaska pollock fishery," said Richard Nelson of the Northwest and Alaska Fisheries Center, "will probably not become economically viable until we develop successful methods of using minced pollock either as an export commodity or in products acceptable to domestic consumption. The total utilization concept is essential and necessary for the economic survival of the industry."

The economics of a full utilization operation on Alaska pollock are impressive when compared to a machine fillet operation. According to the National Marine Fisheries Service, fully 40 percent of Bering Sea pollock are too small to machine fillet. From a hypothetical 100 lbs. of pollock landed, 40 lbs. are immediately discarded as waste. A 25 percent yield from fillet machines yields 15 lbs. of product worth about $.70 per lb. for $10.50.

In a full utilization operation the economics appear more promising. From that 100 lbs. of landed pollock a yield of 15 lbs. of fillets is worth about $10.50. Fish frames and fish too small to fillet yield another 35 lbs. of minced fish conservatively priced at $.30 per lb. for another $10.50. Waste is reduced to fish meal worth another $.50. The gross return for a full utilization operation, on paper, is more than double the gross return of a pure fillet operation.

The economics of a surimi operation look even more favorable. Here yield is lower but price is higher ($.30 per lb. for minced fish compared to $.85 per lb. for surimi manufactured from Bering Sea pollock.) In surimi production, the production of minced fish is only part of the process. A series of washings and strainings produce a smaller quantity of fish paste very high in protein. The yield of surimi from 100 lbs. of round pollock would be about 30 percent, compared to a yield of minced fish of up to 50 percent.

Starting again with a hypothetical 100 lbs. of Bering Sea pollock in the round, 60 lbs. of round fish would be filleted for a yield of 15 lbs. of fillets worth about $10.50 on the world market. Surimi production from frames and small fish would yield about 25 lbs. of product worth $.85 per lb. for a total surimi value of $21.25. Total gross return from a surimi operation, on paper, is more than *triple* the gross return of a pure fillet operation.

Given such seemingly favorable economics, why isn't the American seafood industry moving quickly to full utilization?

The answers are familiar — lack of a domestic market and market ignorance (and consumer ignorance) of high quality minced fish and surimi products, and lack of an export market.

Though the minced fish industry has not quite struggled to its feet (total sales of minced fish and surimi products in the U.S. in 1980 were about $10 million, less than one percent of the total U.S. seafood market), the vital signs are there and showing signs of improvement.

New minced fish products have been developed and test marketed with promising results. Interest in deboning technology is building. One American company based in Alabama is successfully producing top quality surimi for which it asks $1.30 per lb.

The interest in full utilization was apparent at a recent conference on the subject at Raleigh, N.C., attended by more than 160 from 12 nations. Sponsors were the National Fisheries Institute, NMFS, the University of North Carolina Sea Grant Program and several other agencies.

A number of conference participants blamed the lack of a ready market for minced fish products on the lack of creative product development and marketing by industry.

Commenting on the Seattle research Nelson said, "It's produced a lot of paper but little in the form of U.S. production. Much can be done at government labs, but we now need research at the industry level."

One of the first seafood products developed under Sea Grant funding at Cornell University was frozen minced fish

GROSS SALES FROM DIFFERENT UTILIZATION OF A CATCH
ALASKA POLLOCK*

OPERATION	LANDED WT.	PRODUCT Item	Wt.	¢/lb	Value	GROSS SALES
Fillet only	100 lbs	Fillets	15 lbs	$.70	$10.50	
		Waste	85 lbs	.00	.00	$10.50
Fillet-Minced Fish	100 lbs	Fillets	15 lbs	.70	10.50	
		Minced Fish	35 lbs	.30	10.50	
		Waste	50 lbs	.00	.00	
		Meal	10 lbs	.05	.50	21.50
Fillet-Surimi	100 lbs	Fillets	15 lbs	.70	10.50	
		Surimi	25 lbs	.85	21.25	
		Waste	50 lbs	.00	.00	
		Meal	10 lbs	.05	.50	32.25

*It is assumed that 60 percent of fish are large enough to fillet. Fillet yield assumed to be 25 percent. Other data derived from world prices and consultation with NMFS, Nichibei Fisheries, Inc. (an American surimi producer), and Taiyo Fisheries Inc.

Gross sales of a fillet-surimi operation are more than triple those of a fillet only operation on Alaska pollock. The bottom line, of course, is profit after expenses and that is an unknown because an American fillet-surimi operation has not been tried on Bering Sea pollock. Nichibei Fisheries, Inc., the only American surimi manufacturer, says its small surimi operation is profitable.

marketed in one-pound boxes. The product sold out in test marketing and a major supermarket chain began buying it for 12 of its stores. The chain now cannot find a supplier to furnish enough of the minced fish to satisfy demand.

"I'm not very proud of the fishing industry to make a statement like this but nobody is interested in supplying," Robert Baker, a food development specialist at Cornell, said.

While railing industry for not moving more quickly to create and market minced fish products, conference participants presented impressive evidence that the American consumer, having long ago accepted processed beef and poultry products, is now ready to accept high quality, creative products made in part or wholly from minced fish.

Cornell's Baker comments on the marketing of the frozen minced fish. It could have sold, he says, for much more than its $1.65 retail price.

"We intended this and priced it as 'good quality hamburger,' thinking people would buy it and use it as they would good hamburger. We included recipes for casseroles, loaves and so forth.

"To our surprise, it sold much better in high income stores. When we asked people what they were using it for, they were using it for crepes, newburg, stuffing flounder — using it as a gourmet item. That would seem to indicate the price could be much, much higher."

In addition to frozen minced fish, Cornell University has developed and tested "fish bites" in tomato sauce, "seafood crispies" and chowder, all made with minced fish. Taste panels rated all products acceptable.

Cornell's minced fish chowders, marketed under the Cayuga Brand, were tested in two upstate supermarkets with promising results. Sales backed up by in store demonstrations were brisk, and they remained good weeks after in store promotions were discontinued. Surveys of buyers indicated 85 percent would continue to purchase Cayuga Brand Chowders if available. "Such a product likely would be commercially viable," Cornell researchers Dana Goodrich, Jr., and Daniel Whitaker, concluded.

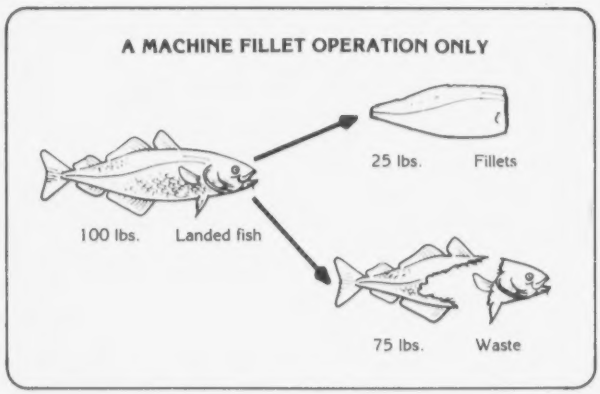
Kibun Products, Ltd., Japan's largest producer of processed seafood is marketing surimi products in the United States. Kibun's Roland Chambers comments on the American market. "We are beginning to find a small percentage of Caucasians purchasing these (Japanese kamaboko) products, partially as a result of interest in Japanese cuisine."

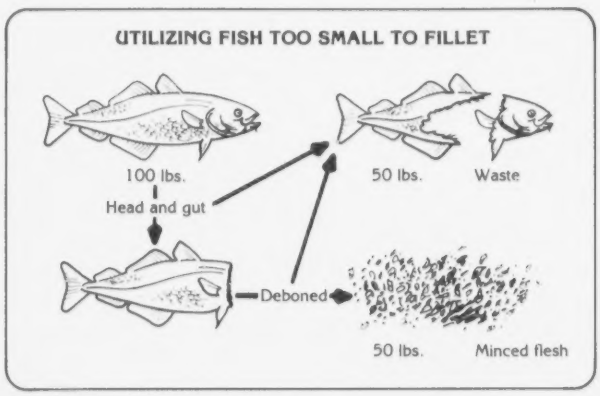
The traditional Japanese kamaboko products, Chambers says, may not find ready acceptance in America. Consumers find kamaboko too rubbery and the taste and texture bland, according to Kibun's surveys. But with development of products appealing to the American palate, Chambers believes surimi products can sell in the United States.

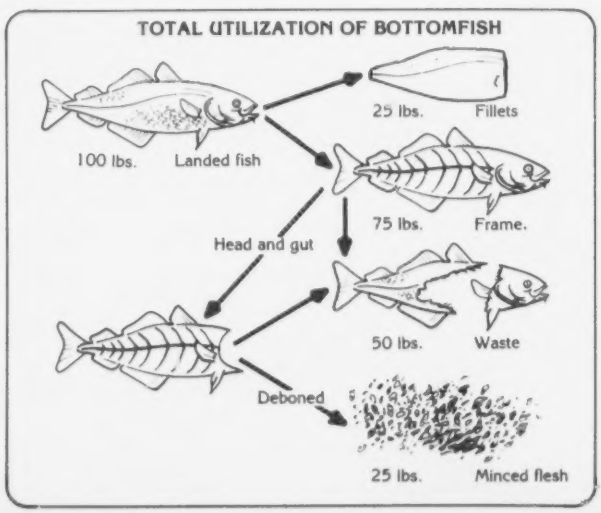
Chambers' optimism is backed by other research of Dr. Tyre C. Lanier, completed at North Carolina State University. Three products were compared for firmness, springiness and cohesiveness: whole breaded shrimp, an all-shrimp fabricated product and a half shrimp-half surimi product. Taste panels rated the half shrimp-half surimi product superior to both the shrimp fabricated product in all three categories and superior to the whole breaded shrimp in firmness and cohesiveness.

Although slow, steady development of an American market for minced fish products looks promising, the barriers should not be underestimated. The American consumer is a lover of beef and poultry (although rising costs of beef production should favor seafood consumption). American and European consumers are largely accustomed to eating meat or seafood in steak, fillet or roast type forms. Also significant is the fact that many American consumers are not accustomed to high quality seafood products. These consumers are skeptical of seafood in its primary form. How would they accept seafood in a processed form even if it were of high quality?

(Continued on page 64)







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Circle number 37 on the Reader Inquiry Card

MICHAEL NAKAMURA

Lack of creative development of high quality seafood products acceptable to the American consumer is one of the barriers holding back full utilization of American fishery resources. On the large plate are four forms of kamaboko, a highly processed surimi product which comprises one-half the Japanese diet of seafood. On the plate at right is pollock surimi and king crab meat blended and portioned to resemble merus crab legs. Dried cod, center, and cod roe round out one picture of full utilization.

FULL UTILIZATION *(cont. from page 61)*

Another barrier is the belief by some that deboning machines are dumping grounds for fish too poor in quality to fillet. The exact opposite is true. Fish run through deboning machines must be of the highest quality to produce a good product.

The Canadians soon realized how crucial quality is in minced fish production, says David White of Canada's Department of Fisheries and Oceans. "We had the worst possible product. The Canadian industry learned quickly that quality counts. In fact, quality is paramount."

Surimi quality is directly dependent upon holding time before processing. The Japanese process Bering Sea pollock before rigor and the result is a high quality surimi with superior binding qualities. The surimi manufactured from Bering Sea pollock is so treasured by the Japanese, it commands roughly double the price of surimi manufactured from catches by the Japanese shore-based fleet, according to Satoshi Noguchi, a product specialist for Taiyo Fisheries. Bering Sea surimi has more than three times the jelling strength of surimi produced by the shore-based fleet. (For prices see related story on the Japanese surimi market.)

American efforts at the surimi market have suffered the same growing pains as the Canadian industry. At Nichibei Fisheries in Bayou La Batre, Alabama, boats brought in load after load of poor quality fish which were rejected by the first successful American surimi operation, said Billy Thrash, manager. Nichibei demanded top quality and it paid off. The firm asks $1.30 for its product. Although it is a small operation (producing 2,000 lbs. to 3,000 lbs. daily), it is growing and profitable, Thrash said.

Most of the elements necessary for a successful domestic growth market in minced fish and surimi seem to be present. There is ample evidence that the American consumer is ready to mix minced fish and surimi type products with his consumption of the traditional fish fillet and steaks, crab and shellfish. And one would hope that with high quality seafood products of all types, the American consumer would increase his seafood buying, creating a healthier growing market for both producers of traditional seafood products and for minced fish and surimi producers.

What is lacking is a developed domestic market for minced fish and minced fish products. The alternative is the export market and that would likely be Japan.

The possibility of breaking into the Japanese surimi market seems more promising with recent passage of the Fisheries Development Act which ties foreign allocations of American fish to market access.

Whether or not an American minced fish industry will develop over the next decade or two is impossible to predict. If the interest shown at the recent NFI conference on full utilization is any indication, development may take place. The economics of full utilization look too promising to ignore.

For further information on the concept of full utilization of fish I would recommend reading the proceedings of the conference, "Third National Technical Seminar on the Mechanical Recovery and Utilization of Fish." Copies will be available in May or June. As *Pacific Packers Report* went to press the price of the proceedings had not been set.

Copies may be ordered through Roy Martin, Director, Science and Technology, National Fisheries Institute, 1101 Connecticut Ave. N.W., Suite 700, Washington, D.C. 20036, or by calling the Institute at (202) 857-1137.

Cornell University has developed several products using minced fish, including a seafood chowder and "Fish Bites" which are served in a cream sauce. Minced fish has been marketed successfully frozen in one pound boxes and canned, an economical substitute for tuna fish. Problems remain in securing a steady supply of product.

American Firms Venture Into Surimi Production

When judges of a kamaboko contest held recently in Japan unveiled seven prize winners out of more than 400 entries of kamaboko, mainstay of the Japanese diet made from the fish paste surimi, a surprise awaited them.

One of the seven prize winners was American made kamaboko from surimi produced in Bayou La Batre, Alabama!

This was not only the first American prize winner ever in the Japanese kamaboko competition, it was the first time any company from outside Japan had entered the competition.

And it was the first surimi produced in commercial quantities by an American firm.

"It proved we know how to make top quality surimi," said Billy Thrash of Nichibei Fisheries, which sells its surimi to Yamaga Enterprises, a California firm which prepares kamaboko for the American oriental community (and which prepared the kamaboko for the Japanese competition).

The contest victory is one of several signs that American firms are entering the minced fish and surimi market. Among other indicators are the following:

- Two American processing companies, Universal Seafoods and Pan-Alaska Fisheries, Inc., based in Seattle, Wash., are entering into joint ventures in the Bering Sea with Taiyo Fisheries Co., Ltd., and Nippon Suisan Kaisha, Ltd., respectively. In each operation 7,000 mt of Bering Sea pollock and other species have been allocated, much of which will go to surimi production aboard Japanese surimi trawlers accepting fish from American catcher boats.
- At a recent National Fisheries Institute conference on full utilization of fish, 160 attendees from 12 nations discussed the opportunities, the technology and the economics of full utilization. Among those attending were several individuals representing fishing and processing firms interested in minced fish and surimi, either as a means to produce profit from wastes such as fish frames and collars currently discarded, or as a means to utilize and profit from small fish and fish for which there is no current market.

American surimi efforts are small, but they are a beginning. Efforts are directly attributable to the 200-mile limit.

When support for the American fisheries zone was building, the Japanese firm which furnished surimi to Yamaga Enterprises, a Los Angeles manufacturer of kamaboko for the American oriental community, told Yamaga's owner, Frank Kawana, his supply might be in jeopardy if the Japanese access to Bering Sea pollock was cut off. Kawana began to worry about his company's future.

It was a National Marine Fisheries Service specialist who introduced Kawana to Walton Kraver, owner of Deep Sea Foods, an integrated fishing company in Bayou La Batre, Alabama. Kraver listened to Kawana's supply fears with great interest because Kraver had a problem of large incidental catches of croaker and other species taken during shrimp fishing.

The solution seemed natural: Kawana would provide a surimi market for Kraver; Kraver would be able to process and sell some of his incidental catch for which he had no current market. They formed Nichibei Fisheries and began production in 1978.

Billy Thrash, the operation's manager, recalls the first days: "We turned back boat load after boat load of bad fish before we finally got through to the fishermen that we were looking for quality." That first year, the operation lost more than $100,000.

In 1980, Nichibei turned the corner and produced 2,000 to 3,000 lbs. of surimi daily when the small plant was in production which was much of the time. Late last year, Nichibei's surimi was used in the award winning kamaboko and Nichibei was asking $1.30 per lb. for its product.

The problem now is the market. Nichibei has saturated the small U.S. market for surimi. "Production is not the problem," said Kraver. "We can catch the fish. We just don't know when and where to market it."

The firm faces a choice, whether to try to break into the Japanese market, something Thrash thinks would be impossible because of their small production, or whether to promote expansion of the domestic market with new product development.

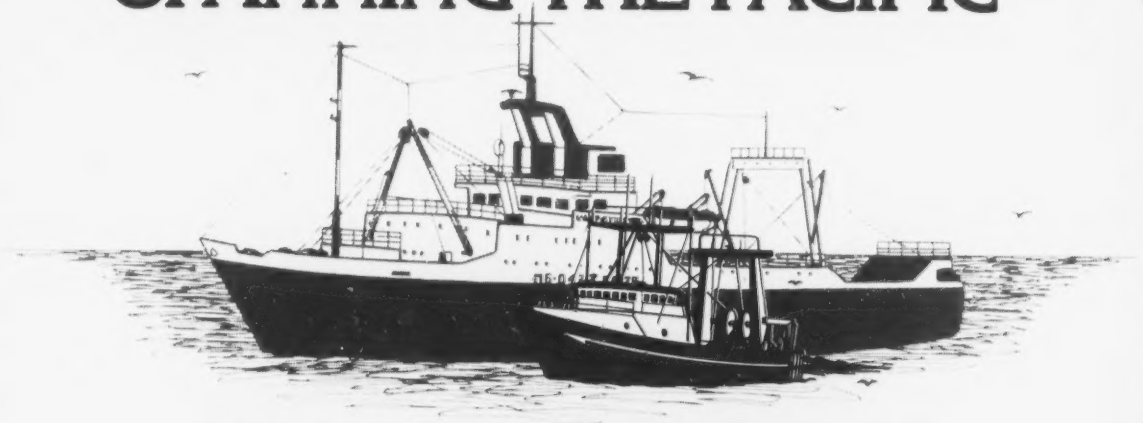
"The real key for us now is the domestic market," Thrash said. "Our approach is to help in the development of new products to enlarge the market with shrimp or crab products made with surimi. If we can boost the domestic market and enlarge our production we may eventually interest the Japanese buyers."

The boats that fish for Nichibei bring in croaker in the summer caught incidentally to shrimp fishing operations. In the off season, fish too small for the fillet market (fish about 10 inches in length and under) supply the surimi plant.

Iced loads of 30,000 lbs. to 70,000 lbs. are brought in after a three day trip. Nichibei typically receives half the catch and pays $.13 per lb. for it. Fish are unloaded in tubs, iced and put in the cooler ready for processing.

From the cooler fish go to the first table where they are headed and gutted by hand (from eight stations) and thrown in a chute for the surimi plant. Headed and gutted fish go though a washer and into a deboner where the surimi yield, based on the whole weight, is 20 to 21 percent on the average. The

SPANNING THE PACIFIC



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deboner can be set for a higher yield, Thrash said, but it is not advisable. With the higher yield will come skin fragments, unwanted contamination of a high quality product.

The yield of minced fish and surimi depends upon the species used and upon the desired end product. In a species like croaker, the yield is lower because of the large head which comprises about one third of the round weight. In a species like pollock, the minced flesh yield could be as high as 50 percent of round weight. In surimi production, a series of washings and strainings reduce the yield to about 30 percent of round weight of pollock.

The minced flesh goes first to a washing tank which contains a ratio of 15 lbs. water to 1 lb. fish, and then to a second washing. The product is then dewatered through a press and run through a strainer to remove any last fragments of bone or scales.

Next the product goes to a hopper where sugar, sorbitol and salt are added and mixed for three minutes. Nichibei's surimi moves next to a stuffing machine where it is packed in poly bags, weighed and transferred to a blast freezer. The product is then trucked to Los Angeles.

The surimi plant is a small single line which can process at peak efficiency about 20,000 lbs. of raw product a day for a 4,000 lb. output. The equipment for Nichibei's operation was imported from the Bibun Co. of Japan.

While Nichibei struggles with market ignorance of its high quality product, two other surimi operations getting underway have ready access to the world's largest surimi market — Japan's.

Allocations of 7,000 mt each have been made to two of Japan's largest fishing companies, Taiyo Fisheries Co, Ltd. and Nippon Suisan Ltd. for joint ventures with American catcher boats.

The Taiyo operation calls for a 335' surimi trawler to receive detached cod ends from four or five American catcher boats in the 1,000 h.p. class. The Japanese surimi trawler, the Zuiyo Maru No. 3, is a vessel of 1,395 net tons. She is a full utilization vessel with capability to fillet, produce surimi, or reduce waste and fish to oil and meal. Pan Alaska is managing the U.S. part of the operation.

The venture between Nippon Suisan and Universal Seafoods is nearly identical to the Taiyo operation. The venture was set to begin in June with three American catcher vessels.

The American-Japanese joint ventures may prove to be a milestone in American fisheries of the north Pacific. The ventures provide for the first time access to the Japanese market for American caught pollock and provide the first direct access to the large surimi market of Japan.

The Japanese Surimi Market

The price of surimi, which is manufactured into dozens of different kamaboko products, varies with its quality measured by its jelling strength.

The lowest quality surimi is manufactured on land by Japan's shore-based fleet. Because it is not processed immediately (vessels land fish after trip fishing), its quality and price are lower. Frozen grade two shore processed surimi brings $.62 per lb. at the Tokyo wholesale market.

Highest quality surimi is provided by Japan's high seas fleet in the Bering Sea. Pollock are processed before rigor. The price commanded by the Bering Sea surimi in the Tokyo market is $.89-.91 per lb. Total wholesale market sales in 1979 were 869,000 mt worth about $1.4 billion.

According to log records the Japanese processed 619,769 mt of Bering Sea pollock in 1979 mothership surimi operations. Assuming a 30 percent yield, 21 percent of Japan's total surimi production was made with pollock allocated from the American fisheries zone.

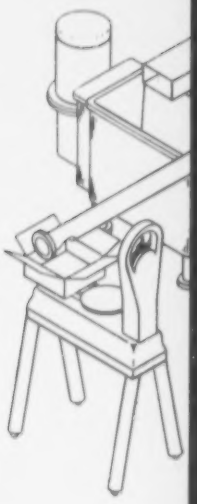
How accessible is the Japanese market? Access to the Japanese market for fish that would compete with Japanese caught fish has been difficult. The U.S. 200-mile limit is forcing a change. With pressure to push foreign fleets off American fishing grounds, the Japanese are becoming more interested in assuring that supply of the products is guaranteed. The recently passed American Fisheries Development Act will only accelerate this change. In it allocations of American fish are directly tied to market access.

Japan's surimi trawlers in the Bering Sea land pollock and process before rigor. Once fish are deboned they are heavily washed. Under highly controlled temperature and hygienic conditions, salt, sugar and sorbitol are added to the fish paste which is then packed, frozen and stored.

When surimi is landed in Japan, companies like Kibun Ltd., Japan's largest kamaboko manufacturer, process surimi in highly automated food factories into dozens of seafood products called kamaboko. In the factory the surimi is thawed to 20 degrees Centigrade. Seasonings, temperature and mixing are tightly controlled.

From surimi, products resembling meat balls and noodles (for soups) are made. A crab-like product, kaniashi, is made from surimi. The texture, taste and color closely resumbles crab meat. Kibun now markets a kaniashi product which resembles king crab under the brand name Sea-Stix. Chicua is a kamaboko product resembling a corn dog. Surimi is applied on a stick and broiled. Using surimi as the base ingredient, the Japanese manufacture dozens of different products which are steamed, broiled, boiled or fried.

Deboning Technology Awaits Fishing Industry



By Bruce J. Cole

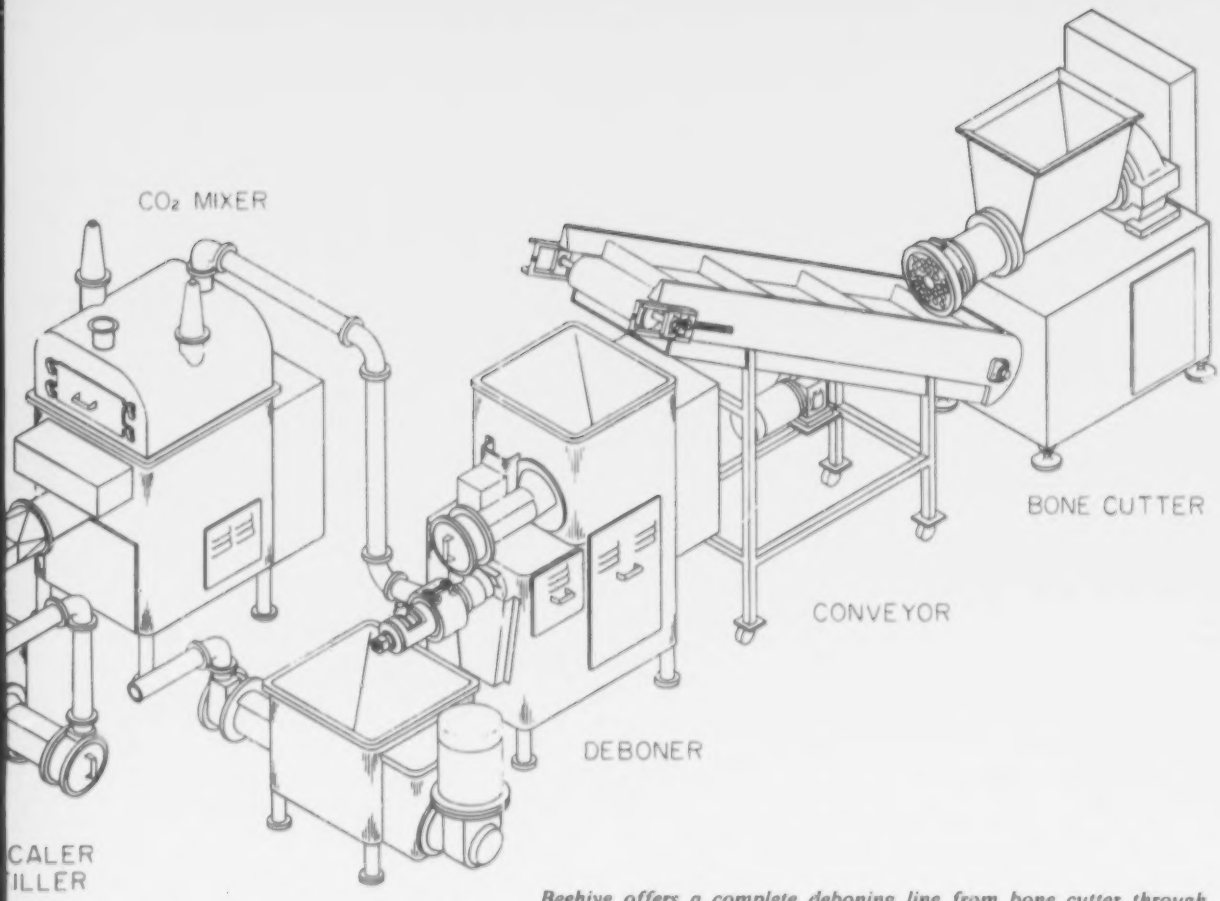
When it comes to deboning technology for minced fish production, there is little need for the American seafood industry to do pioneering work, For a beginning all the industry need do is take a close look at the poultry industry which has already developed the technology.

"There is no reason for the industry (seafood) to run through the swamps. You can draw on what poultry has done and what the red meat industry has done," said Jack Prince, a Gainesville, Georgia deboning machine manufacturer.

Truly high volume deboning in the U.S. got underway only after Japanese deboning technology was imported. This technology, Prince said, is waiting for the fishing industry. The industry, he recommends, should start with "steady, gentle growth, unhurried market testing and steady marketing efforts."

The deboning technology is available and a few companies now have experience with it, either in operations to utilize waste from fillet operations or in minced fish production from fish too

Fish sausage is one product which has been manufactured from minced flesh of fish species formerly considered



Beehive offers a complete deboning line from bone cutter through weighing and packing.

small to fillet.

What follows is a brief review of some of the machines on the market. For more detailed information, manufacturers or their representatives should be contacted.

In general, fish deboning machines operate on the principle of pushing raw material through perforations in a head or drum, perforations small enough to retain the bones and skin but large enough to let the flesh pass through. The smaller the perforations, the less chance there is for bones to pass through with the flesh. However with very small perforations, the flesh particles will be small and the end product will have a paste consistency.

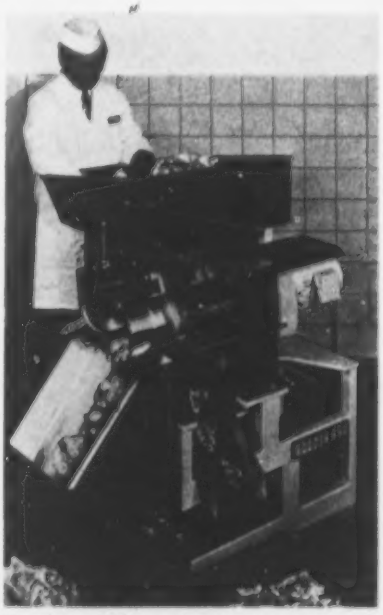
Baader now offers two deboning machines, the Baader 694 and 695. Both deboners use the belt and drum system. The 695, however, has about three times the capacity of the 694 which can handle more than 1,000 lbs. of raw material per hour. This capacity is sufficient to handle pin bone v-cuts from about 10 tons of raw fish per hour processed in a filleting plant. One operator is required to feed raw material. Power requirements for the 694 is 1.5 kw. Power consumption of the 695 is 4.4 kw.

Baader offers a bone cutter, the 82 and a flatfish bone cutter, the 83, for preparation of fish frames for recovery of skeletal flesh. With the auxiliary machines, Baader can offer a complete line for recovering collar bone meat from white fish. The line includes a washing machine, a mechanical deboner with a precrusher and feed screw, and a dewatering press.

The Baader deboning machines may be purchased with drums which contain 1.2, 3, 5, 8, and 10 millimeter diameter holes. Daily maintenance is limited to greasing six nipples and occasionally adjusting the scraper plate to compensate for wear.

The Paoli deboning machines, offered by the Stephen Paoli International Corp. of Rockford, Ill. operates on the forced feed system. One operator feeds raw material into a hopper. Fish are automatically fed into a grinder and then forced through the separator.

(Continued on page 71)



Baader's 694 requires one operator. It has a capacity for raw material input of more than 1,000 lbs. per hour.

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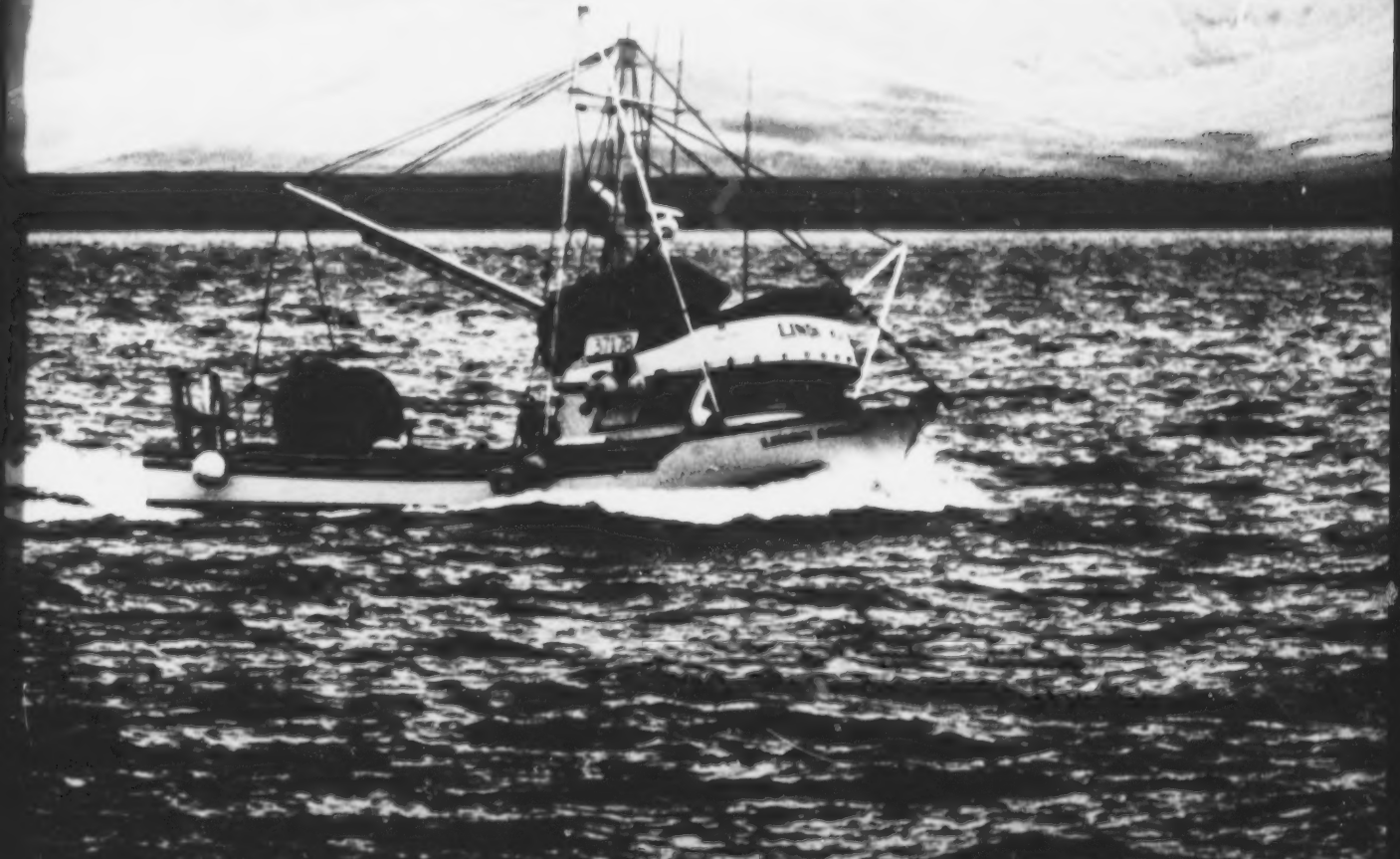


Circle number 63 on the Reader Inquiry Card.

With separators in 40 countries used in the beef, poultry and fishing industries, Paoli is no newcomer to the business. Five different units are offered with raw material capacities ranging from 600 lbs. per hour to 6,000 lbs. per hour.

Paoli separators have been used to recover what was formerly considered to be unrecoverable meat from lobster. The firm's separators are now used to extract meat from the South African Bongo fish, once a trash fish. Paoli company claims 99 percent of the pure meat in the fish is recovered for processing into fish sausage. Mullet sausage also has been experimentally manufactured with Paoli separators with encouraging results, the firm reports.

Beehive Machinery, Inc. has experienced keen interest in deboning machines, said a company spokesman. The main problem, he said, was volume. Beehive's deboner is capable of 6,000 lbs. of input per hour. Until a larger market develops for minced fish products, few fish plants can consider that kind of volume.

Beehive's fish deboner has been operated on the folowing cuts and species:

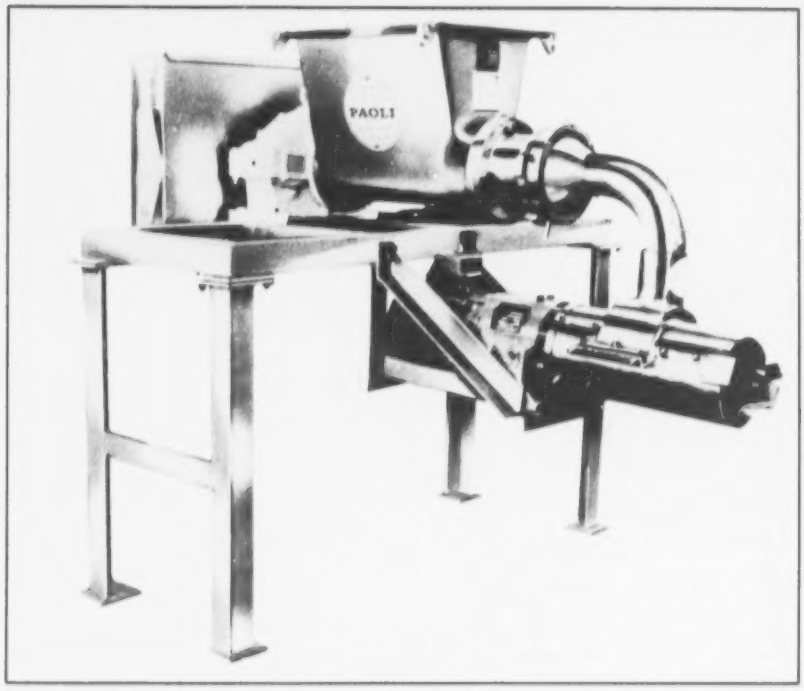
Clean salmon tails, Beehive claims, yield 65 percent pink flesh. Salmon collars yield about the same. Halibut trimmings, including large pieces of collars and tails yield 65 to 75 percent white meat. Halibut frames, up to three feet long were put into the deboner without pregrinding. Yields varied from 66 to 72 percent.

To obtain the yield available on cod v-cuts and perch v-cuts Beehive designed a special ring valve. Yield on cod v-cuts is 93 percent with some bone content. Cod frames yielded approximately 75 percent meat.

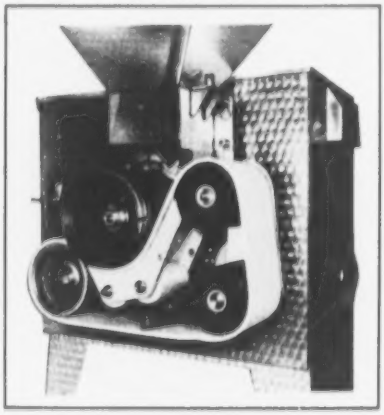
Cooked shrimp pieces from a peeling and screening operation have been run through the Beehive deboner as an experiment. The yield was only 60 percent, but the firm believes the yield would be substantially higher with a proper ring valve. Other species tried in Beehive deboners include lobster and dog fish.

For further information contact the following:

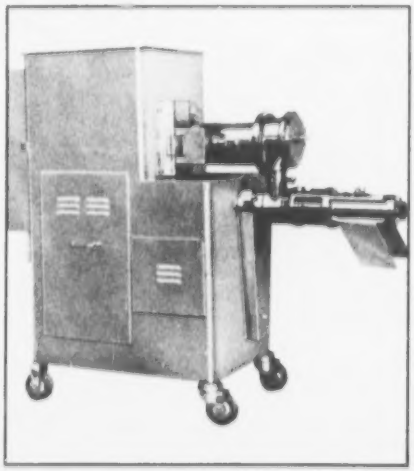
- Edyfinn Tausen, Baader North America Corporation, 2531 152nd Ave. N.E., Redmond, WA 98052, or circle no. 7 on the reader inquiry card.
- Stephen Paoli International Corp., 2531 11th St., Rockford, IL 61101, or circle no. 86 on the reader inquiry card.
- Jack Prince, Inc., Box 1157, Gainesville, GA 30503, or circle no. 87 on the reader inquiry card.
- Beehive Machinery, Inc., 9100 South Fifth West, P.O..Box 5002, Sandy, UT 84091, or circle no. 88 on the reader inquiry card.



The fish flesh from a Paoli automatic meat/bone separator has a sausage texture. The balance, consisting of bone, sinew, gristle, connective tissue and scale emerges in a mulched condition.



Both the Baader 694 and 695 deboners operate on the drum belt system, shown here with part of the machine removed. Drum pressure is controllable. Drums are available for various applications.



The Beehive separator has a capacity of 6000 lbs. per hour of raw material. Beehive's separators are used worldwide.

BOTTOMFISH:
Market Improves For a Troubled Industry

• "The bloodbath is over," is how one California processor described market conditions early this year following a disastrous 1980.

A year ago, high inventories, an oversupply of product for the market, and high ex-vessel prices caught West Coast processors short. No fewer than seven companies either filed for bankruptcy or sold out under financial pressure.

Market conditions have not completely turned around, but they look more promising for 1981. Frozen inventories are down substantially. A check of Northwest inventories of nine major bottomfish species shows seven down dramatically.

The oversupply of product experienced during the first half of 1980 has been partially alleviated by lower catches. 1980 landings for dover sole, for example, were 27.7 million lbs., down from the 37.6 million lbs. taken the year before. Catches of English sole in 1980 were also down substantially, to 8.4 million lbs. from 11.3 million lbs. Petrale was down as well, to 5.1 million lbs. from 6.4 million lbs. in 1979.

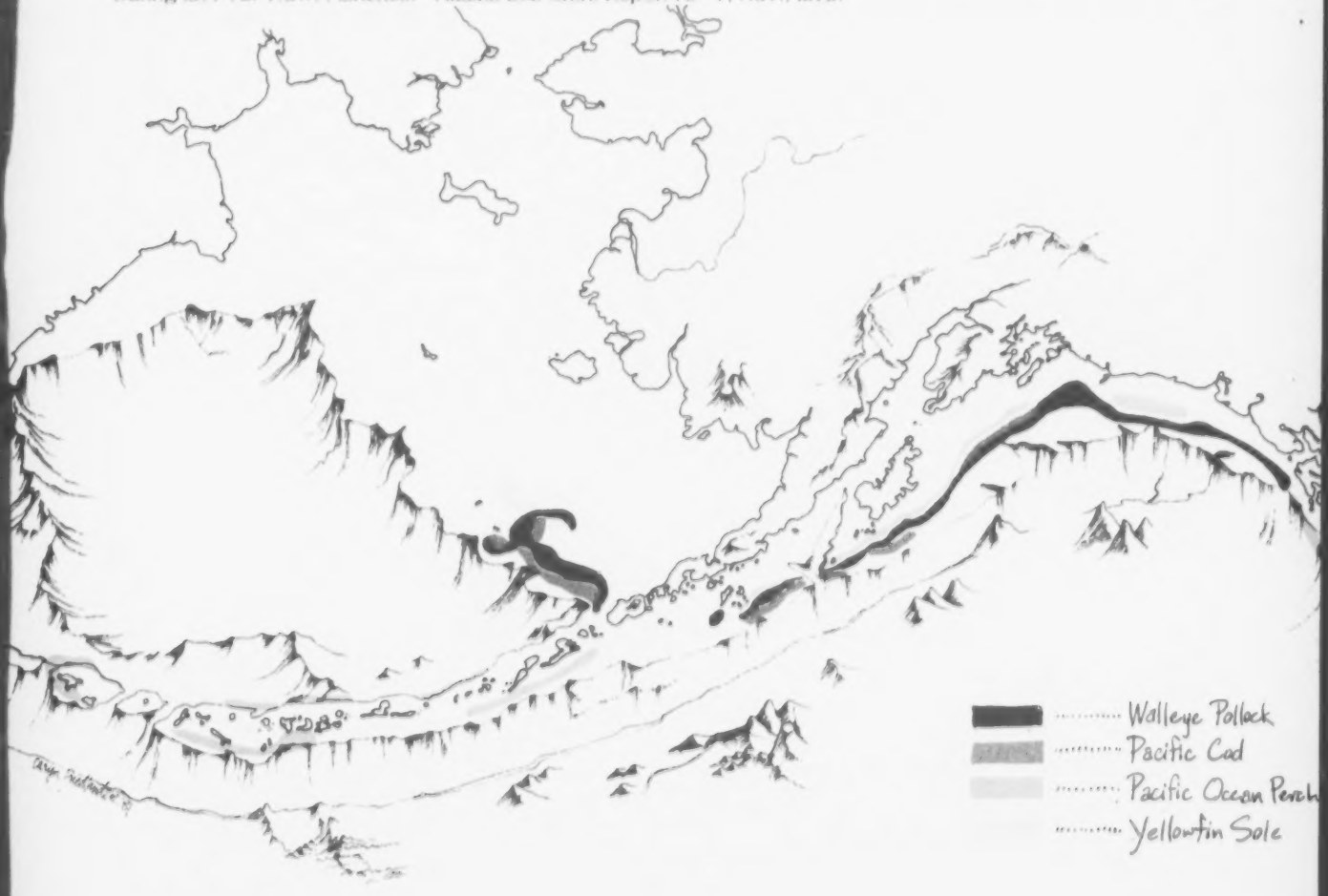
• Snapper landings for 1980 (included in the rockfish landing data) were up substantially, from 62.4 million lbs. in 1979 to 75.3 million lbs. in 1980. Market conditions for snapper look bright.

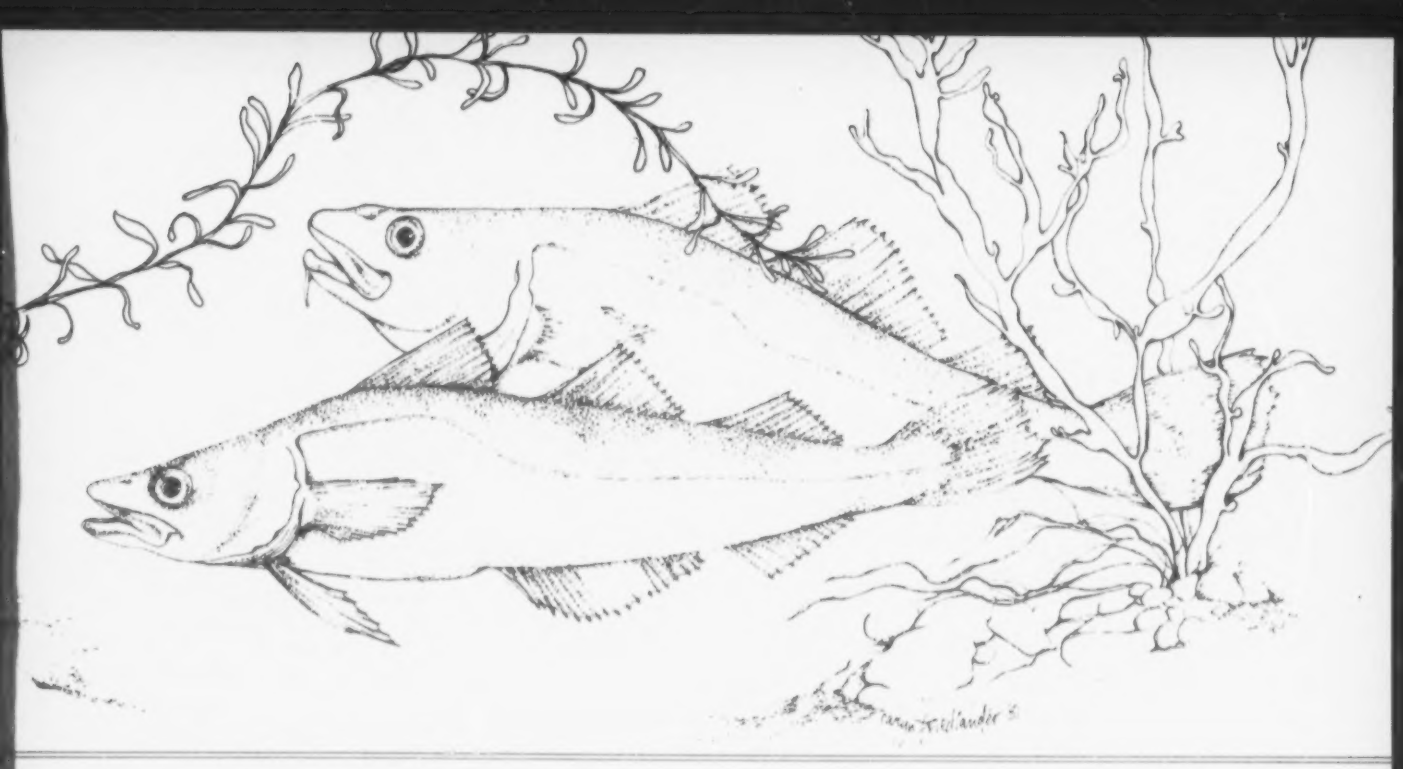
Processors last year took losses on fresh snapper when wholesale prices fell from as high as $1.25 per lb. to $.65 to $.75 per lb. Ex-vessel and wholesale prices stabilized in the first quarter of 1981 at $.12 per lb. (down from $.25 per lb.) and about $.75 F.O.B. plant. Demand was good.

One processor calls the snapper midwater production a "revolution." Midwater trawling for snapper began heavily in late 1979, dramatically boosting supply. It has taken to the first quarter of 1981 for the market to adjust. Now snapper is building a reputation as the best quality product for its price on the market.

Locations of Major Alaskan Bottomfish Stocks

Source: Gary B. Smith and R.S. Hadley: "A Summary of Productive Foreign Fishing Locations in the Alaska Region During 1977-78: Trawl Fisheries." Alaska Sea Grant Report 79 - 7, Nov., 1979.





• Wholesale prices for other species have come up in recent months and demand has improved. In February the wholesale price on dover sole had stabilized in the $1.45 to $1.65 per lb. range along the coast following the decline in price in 1980.

The blackcod price remained down after dropping during the summer of 1978. Wholesale price on fresh fillets in early 1981 was about $.65 to $.75 per lb. and frozen fillets were going for as low as $.50 per lb.

• While 1981 looked a little more promising for processors, it looked little better for fishermen still caught between the crunch of high costs and inadequate income.

An owner of an 87' trawler summed up a depressing 1980: "Not only have we been fighting terrible prices, we have been fighting market access. We did not have a market for our product for six months this year. When we finally did find a market, the price was substantially below the Fishermen's Marketing Association price. We had no other place to turn. The only reason we keep

(Continued on page 74)

1980 Pacific Bottomfish Landings

(THOUSAND POUNDS)

	ALASKA		WASHINGTON		OREGON		CALIFORNIA		TOTAL/U.S.		BRITISH COLUMBIA		TOTAL U.S. & B.C.	
	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980	1979	1980
Cod, Pacific	3,276.0	5,254.0	8,269.4	5,811.0	1,037.0	310.0			12,582.4	11,375.0	16,675.4	13,924.9	29,257.8	25,299.9
Dogfish			9,406.2	6,952.7	85.4	51.0	N/A	N/A	9,491.6	7,003.7	2794.7	N/A	12,286.3	7,003.7
Flounder	277.8	73.1	1,270.5	1,230.1	629.9	665.0		578.7	2,184.2	2,546.9	678.8	N/A	2,863.0	2,546.9
Halibut	14,836.0	15,700.0	569.1	2,911.4	43.4	150.0	N/A	N/A	14,448.5	18,761.4	6,468.7	7,388.0	21,917.2	26,149.4
Herring	53,739.0	84,536.2	7,391.8	5,939.6	162.2	108.0	9,260.0	15,666.2	70,553.0	106,250.0	95,796.8	45,373.7	166,349.8	151,623.7
Lingcod	41.0	51.0	3,653.8	3,299.8	1,691.7	1,358.0	1,499.4	2,459.7	6,885.9	7,168.5	3,114.3	3,012.9	10,000.2	10,181.4
Pacific Ocean Perch	263.8	8.5	3,024.8	3,050.8	4,199.9	3,930.0	92.6	23.0	7,581.1	7,012.3	N/A	10,912.0	7,581.1	17,924.3
Pollock	4,345.7	2,228.0	1,078.4	872.1					5,424.1	3,100.1	7,462.7	4,690.1	85,273.7	7,790.2
Rockfish	358.5	423.0	26,899.8	31,460.7	19,480.5	27,083.0	19,750.2	21,244.4	66,489.0	80,211.1	18,784.7	9,054.0	25,433.6	4,265.1
Sablefish	1,522.7	3,297.0	6,584.5	3,103.8	17,000.0	6,500.0	5,000.9	5,934.0	33,108.1	18,834.8	2,453.1	3,949.6	35,561.2	22,784.4
Skate	101.4	39.5	215.2	107.9	408.9	135.0	N/A	N/A	725.4	282.4	374.7	N/A	1,100.1	282.4
Sole, Dover	1.0		5,401.8	4,394.0	11,170.0	8,160.0	21,000.4	15,096.6	18,673.2	27,650.6	1,388.8	2,647.0	20,562.0	30,297.6
Sole, English	7		3,107.7	2,671.0	3,120.0	1,470.0	5,100.1	4,246.5	11,328.5	8,387.5	2,334.0	2,400.1	13,662.5	10,787.6
Sole, Flathead	28.7				24.2	7.0			52.9	7.0			52.9	7.0
Sole, Petrale			1,604.7	1,293.1	2,290.0	1,680.0	2,500.0	2,123.8	6,394.7	5,096.9	438.6	425.4	6,833.3	5,522.3
Sole, Rex		67.0			1,602.3	950.0		521.8	1,602.3	1,538.8	456.2		2,058.5	1,538.8
Sole, Rock	.3	30.0	529.1	358.8	191.0	115.0			720.4	503.8	3,885.6	3,691.7	4,606.0	4,195.5
Sole, Sand			642.5	464.0	756.4	627.0			1,398.9	1,091.0			1,398.9	1,091.0
Sole, Yellowfin	1.3	3							1.3	3			1.3	.3
Whiting			9,782.0	10,213.6	303.2	65.0	1,528.1	95.9	11,613.3	10,374.5			11,613.3	10,374.5

Note: Preliminary data
Source: State and Provincial Fisheries Agencies

Pacific Trawl Landings

(THOUSAND LBS.)

YEAR	ALASKA	WASHINGTON	OREGON	CALIFORNIA	TOTAL U.S.	B.C.	TOTAL
1971		43,219	20,463	38,545	102,227	32,089	134,316
1972		42,071	20,924	54,101	117,096	41,692	158,788
1973	1,043	40,564	19,284	61,064	121,955	38,581	160,536
1974	1,603	43,595	19,660	54,864	119,723	38,501	158,223
1975	143	39,032	19,337	61,064	119,576	48,277	167,853
1976	978	47,754	25,022	64,068	137,822	53,006	190,828
1977	2,529	50,934	20,941	62,500	136,904	54,608	191,512
1978	5,791	58,944	31,803	63,250	159,788	56,861	216,649
1979	7,112*	70,247	46,579	56,471	180,409	68,569	248,978
1980	8,603*	66,724	50,000	59,320	184,647	N/A	N/A

*All gears
Note: 1978 Alaska, 1979 Alaska and Oregon and 1980 data preliminary.
Source: State and Provincial Fisheries Agencies.

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BOTTOMFISH *(cont. from page 73)*

working is that we know if we tie the vessel to the dock there is nothing we could do."

Fuel costs are taking what little margin fishermen have away from them. Cost of fuel for a single trip 18 months ago for the above-mentioned 87-footer was about $1,500. In early 1981 the average trip cost for fuel had more than doubled to $3,500.

• While expenses have gone up, ex-vessel prices for most species for the past two years have remained stable or have declined. Prices negotiated between processors and the Fishermen's Marketing Association on May 14, 1978 included ex-vessel prices of $.45 per lb. for whole blackcod; $.38 per lb. for petrale sole; $.2125 per lb. for dover sole; and $.185 per lb. for rockfish and ocean perch. Prices late last year were $.12 per lb. for brown rock and $.15 per lb. for other rockfish; $.22 per lb. for dover sole; $.50 per lb. for petrale sole; and only $.14 per lb. for ocean run blackcod.

• In Alaska, most of the bottomfish action remains at sea with joint venture operations. The total Alaska joint venture catch in 1980 was 32,579 mt of which the American-Soviet venture landed more than 26,000 mt. The remainder was landed by the American-Korean venture.

American firms pinning big hopes on shoreside development have, at least temporarily, dropped out of the Alaska bottomfish picture. Icicle Seafoods, Inc., which has processed bottomfish at both Petersburg and Akutan, is not processing bottomfish in 1981. The New England Fish Co. processed pollock and cod at its Gibson Cove plant at Kodiak before the firm filed for bankruptcy. The plant has been picked up by another firm, the Alaska Food Co., which is gearing up for another try at the shoreside bottomfish business.

Significant in 1981 are the larger joint venture allocations and the entry of the Japanese in the joint venture business.

— **B.J.C.**

1980 West Coast Frozen Food Fish

COMPANY	LOCATION	HALIBUT	SABLEFISH	FILLETS	ROE HERRING	BAIT HERRING	BOTTOMFISH	TOTAL
ALASKA								
Alaska Far East Corp.	Naknek				115,000			115,000
Alaska Gourmet, Inc.	Anchorage	100,000						100,000
Alaska Packers Association, Inc.	Kodiak				46,167			46,167
Annette Island Packing Co.	Metlakatla	82,188	159,572	4,484	226,561			472,805
Columbia Wards Fisheries	Alitak				194,676			194,676
	Kodiak	118,700						118,700
	Port Bailey				51,674			51,674
Excursion Inlet Packing Co.	Excursion Inlet	569,239						569,239
Halibut Producers Co-operative	Sitka & Bellingham, WA	645,627	360,814					1,006,441
Harbor Seafoods Co., Inc.	Wrangell	357,444	3,834					361,278
Icicle Seafoods, Inc.	All Points	4,877,700	1,389,435	518,902	23,822,000	2,510,000		33,118,037
Marine Resources Co.	At sea processor						113,306,000	113,306,000
Morpac, Inc.	Cordova				571,770			571,770
Neibro Packing Co.	Naknek				1,625,818			1,625,818
Northern Products Corp.	Various	301,186	59,396				5,583	366,165
Pan Alaska Fisheries	All Points	3,990						3,990
Pelican Cold Storage Co.	Pelican & Pt. Alexander	713,125	255,846		438,770		35,006	1,442,747
Peter Pan Seafoods, Inc.	Port Moller				1,020,520			1,020,520
	King Cove	16,268						16,268
Sea-Nik Foods	Ninilchik			422,157				422,157
Trans Pacific Industries	Bering Sea			2,000,000				2,000,000
Ultra Alaska Associates	Barge: Togiak				794,821	266,372		1,061,193
Western Alaska Fisheries	Kodiak	394,229			2,184,187			2,578,416
TOTAL ALASKA		8,163,428	2,228,897	2,523,386	31,091,964	2,776,372	113,346,589	160,130,636
BRITISH COLUMBIA								
Prince Rupert Fishermen's Co-op Assn.	Fairview	1,262,800	315,718	3,310,203	13,000,000	600,000		18,488,721
Tonquin Enterprises Limited	Vancouver	40,000						40,000
TOTAL BRITISH COLUMBIA		1,302,800	315,718	3,310,203	13,000,000	600,000		18,528,721
WASHINGTON								
Chinook Packing Co.	Chinook			3,000,000				3,000,000
Guilford Packing Co., Inc.	Port Townsend			4,000				4,000
Harbor Bell, Inc.	Bay Center			19,515				19,515
Independent Fishermen's Packing Co.	Anacortes			400,000	400,000			800,000
Jessie's Ilwaco Fish Co.	Ilwaco		200,000	12,000,000				12,200,000
Peter Pan Seafoods, Inc.	Bellingham				20,280			20,280
Sea K Fish Co., Inc.	Blaine			1,200	2,554,665	90,000		2,645,865
Seattle Seafoods, Inc.	Seattle	840,873						840,873
Seawest Industries, Inc.	Bellingham						42,966	42,966
Washington Crab Producers, Inc.	Westport		400,000	6,500,000				6,900,000
TOTAL WASHINGTON		840,873	600,000	21,924,715	2,974,945	90,000	42,966	26,473,499
OREGON								
Alaska Packers Association, Inc.	Hammond			1,453,367				1,453,367
	Newport		104,524	1,997,594				2,102,118
Bell Buoy Crab Co.	Seaside	3,200						3,200
Bumble Bee Seafoods	Astoria & Newport		1,657,148	968,120				2,625,268
TOTAL OREGON		3,200	1,761,672	4,419,081				6,183,953
CALIFORNIA								
California Shellfish Co., Inc.	Santa Rosa			2,000,000				2,000,000
Eureka Fisheries, Inc.	Fields Landing		750,000	2,500,000				3,250,000
Long Beach Seafoods Co.	Long Beach	681,076						681,076
Meredith Fish Co.	Sacramento		300,000	1,500,000				1,800,000
Young's Meat Co.	Los Angeles	600,000						600,000
TOTAL CALIFORNIA		1,281,076	1,050,000	6,000,000				8,331,076

Note: The frozen food fish totals represent the production of the processing companies as reported to this publication, but do not reflect total production. Data reflect whole fish, purchased for processing.

Halibut Deliveries at Alaska Ports

(POUNDS)

YEAR	KETCHIKAN	WRANGELL	PETERSBURG	SITKA	JUNEAU	PELICAN	MISC. S.E. ALASKA	CENTRAL ALASKA	TOTAL POUNDS	YEAR
1950	6,992,000	479,000	3,140,000	3,103,000	3,823,000	3,351,000	75,000	4,372,000	25,265,000	1950
1951	5,170,000	496,000	2,869,000	1,985,000	2,386,000	2,294,000	192,000	3,642,000	19,034,000	1951
1952	7,696,000	430,000	3,022,000	2,023,000	2,645,000	2,244,000	139,000	2,661,000	20,860,000	1952
1953	4,823,000	368,000	2,847,000	1,662,000	1,706,000	2,829,000	214,000	3,625,000	18,074,000	1953
1954	5,611,000	376,000	4,117,000	2,382,000	3,382,000	3,040,000	385,000	3,408,000	22,901,000	1954
1955	3,811,000	298,000	3,393,000	1,040,000	2,679,000	2,621,000	397,000	5,026,000	19,265,000	1955
1956	7,639,000	727,000	4,151,000	1,772,000	3,049,000	2,215,000	1,154,000	3,200,000	23,907,000	1956
1957	5,741,000	660,000	3,703,000	1,359,000	2,364,000	1,879,000	327,000	3,835,000	19,868,000	1957
1958	6,992,000	521,000	3,497,000	1,179,000	2,085,000	2,449,000	386,000	5,114,000	22,223,000	1958
1959	9,443,000	773,000	3,384,000	984,000	2,367,000	2,232,000	434,000	6,701,000	26,318,000	1959
1960	6,263,000	660,000	3,972,000	1,234,000	2,054,000	1,973,000	415,000	6,966,000	23,537,000	1960
1961	9,498,000	670,000	5,338,000	1,533,000	1,698,000	1,693,000	773,000	4,811,000	26,014,000	1961
1962	10,806,000	747,000	5,904,000	1,333,000	1,912,000	1,910,000	727,000	9,403,000	32,742,000	1962
1963	8,008,000	405,000	3,963,000	1,211,000	2,170,000	1,345,000	517,000	11,150,000	28,769,000	1963
1964	7,052,000	298,000	4,248,000	472,000	1,235,000	1,161,000	179,000	6,975,000	21,620,000	1964
1965	8,749,000	363,000	5,035,000	1,090,000	1,824,000	1,528,000	370,000	9,473,000	28,432,000	1965
1966	8,346,000	385,000	4,199,000	1,230,000	2,131,000	2,183,000	480,000	9,932,000	28,936,000	1966
1967	7,713,000	401,000	4,818,000	753,000	1,961,000	1,357,000	264,000	8,325,000	25,592,000	1967
1968	3,225,000	197,000	3,018,000	510,000	1,022,000	643,000	109,000	4,700,000	13,424,000	1968
1969	3,265,000	554,000	4,838,000	790,000	1,601,000	1,506,000	239,000	8,408,000	21,201,000	1969
1970	2,875,000	652,000	3,806,000	720,000	1,717,000	1,405,000	365,000	14,547,000	26,087,000	1970
1971	2,371,000	417,000	2,589,000	1,264,000	1,233,000	1,446,000	394,000	14,197,000	23,911,000	1971
1972	1,035,000	342,000	2,561,000	1,229,000	1,017,000	1,143,000	207,000	15,279,000	22,813,000	1972
1973	787,000	405,000	3,165,000	952,000	960,000	1,091,000	552,000	12,537,000	20,449,000	1973
1974	465,000	397,000	3,047,000	463,000	769,000	1,021,000	769,000	6,693,000	13,624,000	1974
1975	417,000	441,000	3,171,000	598,000	873,000	1,622,000	1,230,000	9,633,000	17,985,000	1975
1976	344,000	539,000	2,174,000	590,000	674,000	1,694,000	1,522,000	9,389,000	16,926,000	1976
1977	143,000	281,000	1,878,000	649,000	277,000	963,000	879,000	9,205,000	14,275,000	1977
1978	289,000	524,000	2,065,000	935,000	445,000	1,373,000	700,000	8,111,000	14,442,000	1978
1979	232,000	467,000	2,255,000	1,353,000	697,000	1,587,000	1,569,000	6,952,000	15,112,000	1979
1980	131,000	355,000	2,083,000	1,347,000	726,000	973,000	1,060,000	4,842,000	11,517,000	1980

Note: 1980 data are preliminary.
Source: International Pacific Halibut Commission

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1980 Halibut Deliveries at Alaska Ports

(THOUSANDS OF POUNDS)

MONTH	KETCHIKAN	WRANGELL	PETERSBURG	SITKA	JUNEAU	PELICAN	MISC. S.E. ALASKA	CENTRAL ALASKA	TOTAL
January	—	—	—	11	—	—	—	—	11
February	—	—	—	19	—	—	—	—	19
April	—	—	—	—	—	—	—	38	38
May	79	241	771	501	425	406	621	1,520	4,564
June	52	112	992	399	205	447	374	1,423	4,004
July	—	2	320	417	96	120	65	1,170	2,190
August	—	—	—	—	—	—	—	501	501
September	—	—	—	—	—	—	—	69	69
October	—	—	—	—	—	—	—	121	121
TOTAL	131	355	2,083	1,347	726	973	1,060	4,842	11,517

Note: 1980 data are preliminary.
Source: International Pacific Halibut Commission

Pacific Halibut Catch by Areas and Nationalities

(POUNDS)

YEAR	AREA 1	AREA 2			AREAS 3 & 4			AMERICAN TOTAL	CANADIAN TOTAL	GRAND TOTAL	YEAR
	American	American	Canadian	Total	American	Canadian	Total				
1950	335,000	12,594,000	14,115,000	26,709,000	25,413,000	4,769,000	30,182,000	30,182,000	18,884,000	57,283,000	1950
1951	314,000	14,426,000	16,191,000	30,617,000	20,318,000	4,829,000	25,147,000	35,058,000	21,020,000	56,078,000	1951
1952	391,000	13,355,000	17,133,000	30,488,000	23,868,000	7,586,000	31,454,000	37,614,000	24,719,000	62,333,000	1952
1953	238,000	14,442,000	18,060,000	32,502,000	19,447,000	7,678,000	27,125,000	34,127,000	25,738,000	59,865,000	1953
1954	674,000	19,165,000	17,574,000	36,739,000	23,841,000	9,952,000	33,793,000	43,680,000	27,526,000	71,206,000	1954
1955	650,000	15,717,000	13,027,000	28,744,000	20,595,000	9,121,000	29,716,000	36,962,000	22,148,000	59,110,000	1955
1956	604,000	20,291,000	15,121,000	35,412,000	21,014,000	10,475,000	21,489,000	41,909,000	25,596,000	67,505,000	1956
1957	446,000	16,261,000	14,365,000	30,626,000	19,934,000	10,349,000	30,283,000	36,641,000	24,714,000	61,355,000	1957
1958	357,000	15,505,000	15,053,000	30,558,000	20,433,000	13,865,000	34,298,000	36,295,000	28,918,000	65,213,000	1958
1959	236,000	16,575,000	14,229,000	30,804,000	24,010,000	16,665,000	40,675,000	40,821,000	30,894,000	71,715,000	1959
1960	309,000	16,723,000	15,086,000	31,809,000	21,318,000	18,527,000	39,845,000	38,350,000	33,613,000	71,963,000	1960
1961	270,000	15,756,000	13,093,000	28,849,000	24,039,000	16,373,000	40,412,000	40,065,000	29,466,000	69,531,000	1961
1962	312,000	14,480,000	14,183,000	28,663,000	25,654,000	20,490,000	46,144,000	40,446,000	34,673,000	75,119,000	1962
1963	205,000	11,689,000	14,462,000	26,151,000	22,396,000	22,671,000	45,067,000	34,290,000	37,133,000	71,423,000	1963
1964	142,000	8,173,000	11,437,000	19,610,000	18,064,000	22,151,000	40,215,000	26,379,000	33,588,000	59,967,000	1964
1965	156,000	12,044,000	12,350,000	24,394,000	18,286,000	20,637,000	38,923,000	30,486,000	32,987,000	63,473,000	1965
1966	141,000	11,913,000	11,522,000	23,435,000	18,305,000	20,450,000	38,755,000	30,359,000	31,972,000	62,331,000	1966
1967	—	10,142,000	9,877,000	20,019,000	19,806,000	15,696,000	35,502,000	29,948,000	25,669,000	55,658,000	1967
1968	—	5,971,000	10,666,000	16,637,000	13,400,000	18,803,000	32,203,000	19,371,000	29,469,000	48,840,000	1968
1969	—	9,362,000	13,346,000	22,708,000	15,646,000	20,251,000	35,897,000	25,008,000	33,597,000	58,605,000	1969
1970	—	8,738,000	11,147,000	19,885,000	17,045,000	18,008,000	35,053,000	25,783,000	29,155,000	54,938,000	1970
1971	—	6,584,000	10,189,000	16,773,000	14,574,000	15,307,000	29,881,000	21,158,000	25,496,000	46,654,000	1971
1972	—	5,766,000	10,517,000	16,283,000	14,717,000	12,018,000	26,735,000	20,483,000	22,535,000	43,018,000	1972
1973	—	5,565,000	7,351,000	12,916,000	11,725,000	7,059,000	18,784,000	17,290,000	14,410,000	31,700,000	1973
1974	—	5,771,000	4,973,000	10,744,000	8,167,000	2,395,000	10,562,000	13,938,000	7,368,000	21,306,000	1974
1975	—	6,461,000	7,369,000	13,830,000	9,798,000	3,988,000	13,786,000	16,259,000	11,357,000	27,616,000	1975
1976	—	5,648,000	7,400,000	13,048,000	9,891,000	4,569,000	14,487,000	15,539,000	11,996,000	27,535,000	1976
1977	—	3,113,000	5,707,000	8,820,000	9,988,000	3,060,000	13,048,000	13,101,000	8,767,000	21,868,000	1977
1978	—	3,746,000	5,274,000	9,020,000	9,637,000	3,331,000	12,968,000	13,383,000	8,605,000	21,988,000	1978
1979	—	4,412,000	5,021,000	9,433,000	11,456,000	1,638,000	13,094,000	15,868,000	6,659,000	22,527,000	1979
1980	—	3,260,000	5,437,000	8,697,000	11,000,000	1,951,000	12,951,000	14,260,000	7,388,000	21,648,000	1980

Note: 1980 data are preliminary.
Source: International Pacific Halibut Commission

Halibut Deliveries at British Columbia Ports

(POUNDS)

YEAR	PRINCE RUPERT*	VANCOUVER NAMU	DIST. NO. 3 & VICTORIA	TOTAL CANADIAN	U.S. VESSELS	TOTAL	YEAR
1961	16,675,000	7,154,000	1,085,000	24,914,000	1,755,000	26,669,000	1961
1962	18,702,000	4,761,000	1,354,000	24,817,000	644,000	25,461,000	1962
1963	17,894,000	6,359,000	1,557,000	25,810,000	733,000	26,543,000	1963
1964	18,602,000	6,268,000	833,000	25,703,000	562,000	26,265,000	1964
1965	20,084,000	4,627,000	968,000	25,679,000	566,000	26,245,000	1965
1966	18,221,000	4,963,000	1,298,000	24,482,000	595,000	25,077,000	1966
1967	10,028,000	7,885,000	1,054,000	18,967,000	332,000	19,299,000	1967
1968	13,571,000	7,568,000	1,248,000	22,387,000	104,000	22,491,000	1968
1969	19,323,000	6,314,000	1,241,000	26,878,000	511,000	27,389,000	1969
1970	13,929,000	4,974,000	911,000	19,714,000	1,770,000	21,484,000	1970
1971	11,508,000	4,205,000	520,000	16,233,000	1,568,000	17,801,000	1971
1972	10,442,000	3,478,000	712,000	14,632,000	1,300,000	15,932,000	1972
1973	7,025,000	2,382,000	535,000	9,942,000	270,000	10,212,000	1973
1974	4,570,000	1,610,000	180,000	6,360,000	154,000	6,514,000	1974
1975	5,336,000	2,141,000	434,000	7,911,000	115,000	8,026,000	1975
1976	6,497,000	2,734,000	277,000	9,508,000	6,000	9,514,000	1976
1977	3,898,000	2,182,000	211,000	6,291,000	5,000	6,296,000	1977
1978	3,187,000	1,797,000	158,000	5,142,000	111,000	5,253,000	1978
1979	3,349,000	1,578,000	573,000	5,500,000	247,000	5,747,000	1979
1980	2,830,000	2,642,000	507,000	5,979,000	—	5,979,000	1980

Note: 1980 data preliminary.
Source: International Pacific Halibut Commission

McCullough Sea Foods, Inc.

Brokers & Importers

- *Abalone*
- *Salmon*
- *Halibut*
- *King Crab*
- *Snow Crab*
- *Lobster*
- *Scallops*
- *Fillets*

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British Columbia Halibut Deliveries

(THOUSANDS OF POUNDS)

MONTH	PRINCE RUPERT*	VANCOUVER - NAMU	DIST. NO. 3 & VICTORIA	TOTAL CANADIAN	TOTAL
May	120	27	40	187	187
June	1,336	725	187	2,248	2,248
July	664	660	115	1,439	1,439
August	475	684	138	1,297	1,297
September	217	498	27	742	742
October	1	—	—	1	1
November	15	48	—	63	63
December	2	—	—	2	2
TOTAL	2,830	2,642	507	5,979	5,979

*Prince Rupert, Masset & District No. 2 combined.
Note: 1980 data are preliminary.
Source: International Pacific Halibut Commission

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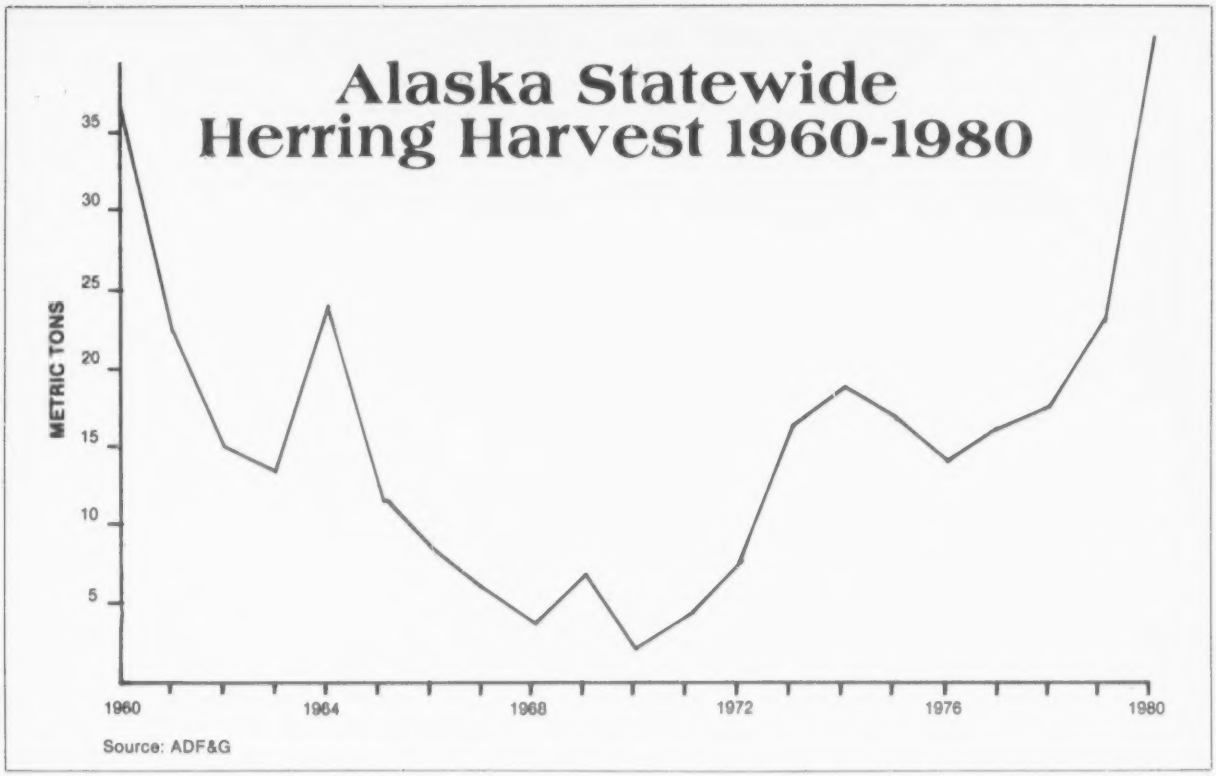


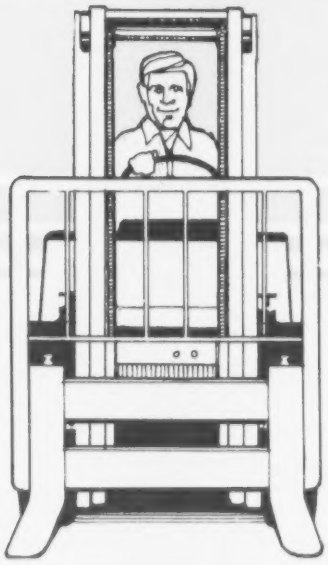
1980 Pacific Herring Landings

(SHORT TONS)

	1977		1978		1979		1980	
	BAIT	SAC ROE	BAIT	SAC ROE	BAIT	SAC ROE	BAIT	SAC ROE
ALASKA								
Southeastern	6,409	2,658	4,042	3,062	3,480	3,087	2,700	6,458
Bristol Bay		2,791		7,751	901	10,251	2,993	16,603
Prince William Sound	17	2,284	1,044	1,357	762	4,136	298	6,280
Cook Inlet	21	3,199	149	402	65	534	32	104
Arctic-Yukon-Kuskokwim		10		301		1,807	135	4,031
Kodiak		338	283	621	107	1,735	150	2,932
TOTAL	6,447	11,280	5,518	13,494	5,315	21,550	6,308	36,408
BRITISH COLUMBIA								
Queen Charlotte Islands		14,179		14,719		9,600		3,032
Northern & Central Coast		19,284		20,744		2,763		3,591
Strait of Georgia		43,346		11,919		7,433		4,104
West Coast of Vancouver Island		34,618		22,211		21,281		6,730
TOTAL		80,872		69,593		41,098		17,457
CALIFORNIA								
San Francisco Bay		4,224		5,016		4,121		6,450
Tomales Bay & Bodega Bay		597		716		448		596
Humboldt Bay		21		12		49		49
Crescent City				13		12		26
TOTAL		4,842		5,757		4,630		7,121
WASHINGTON								
All Points		2,303		2,134	1,781	1,915	1,383	1,587
TOTAL	6,447	99,297	5,518	90,978	7,096	69,193	7,691	62,573

*Note: 1980 data preliminary. British Columbia 1980 figures are on the grounds estimates.
Source: State and provincial fisheries agencies.

This Toyota features the new "Toyota-Vision" mast.



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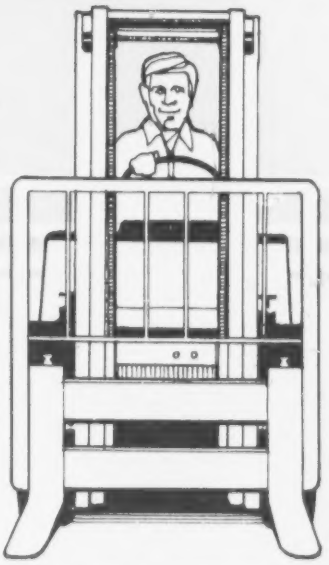

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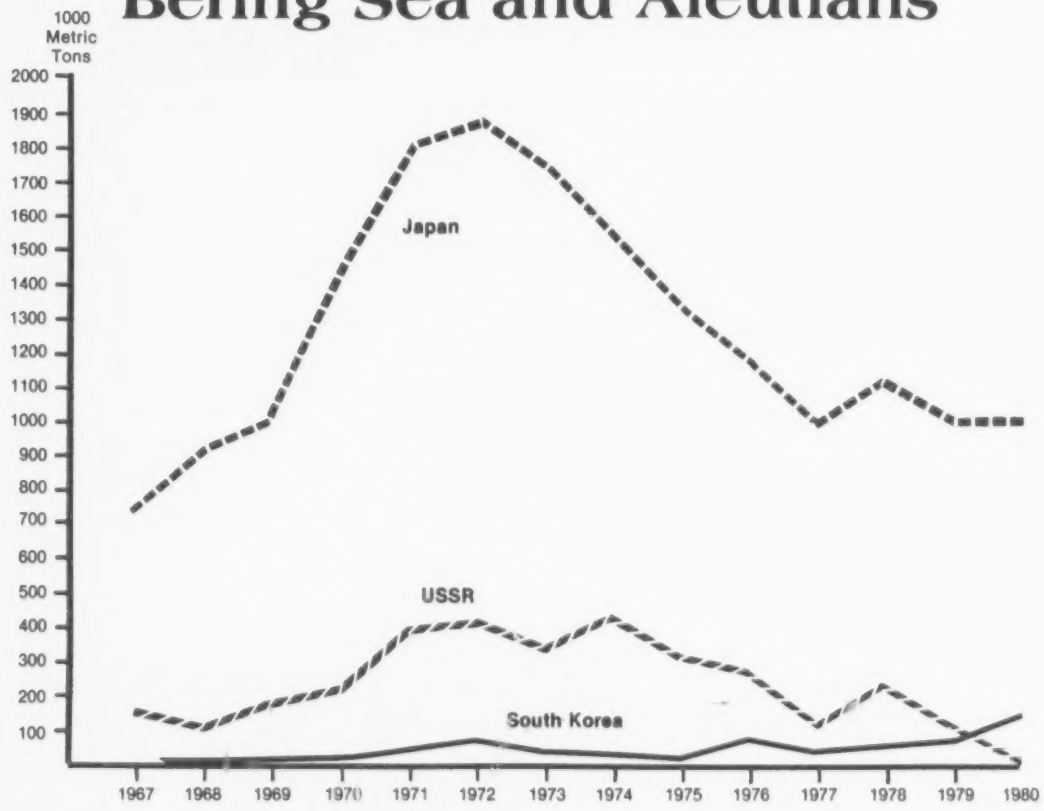
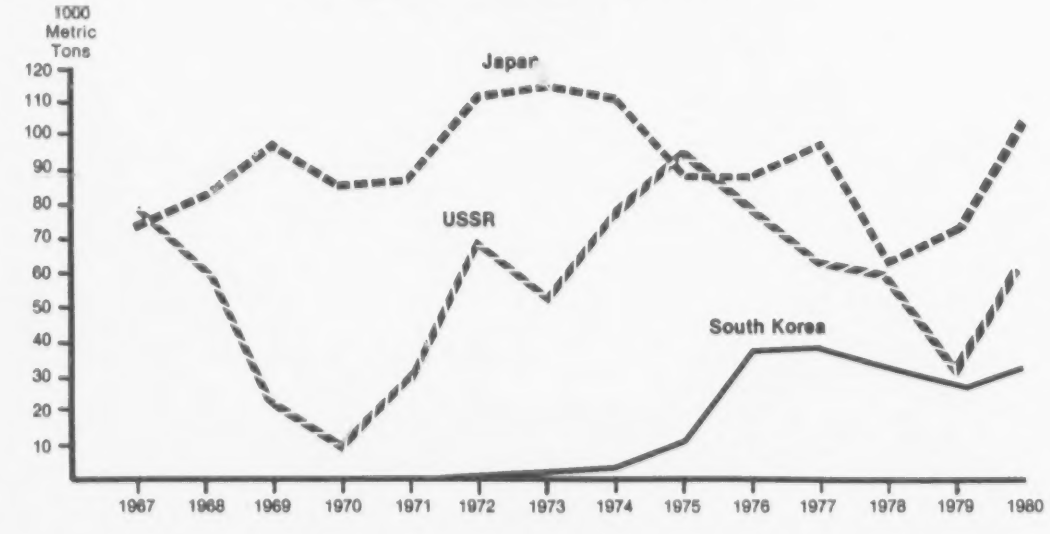
Foreign Fishery Catches

Bering Sea and Aleutians



Gulf of Alaska



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1981 Foreign Fishery Allocations for the Bering Sea

	JAPAN	ROK	TAIWAN	POLAND	FRG	RESERVE	TOTAL
PACIFIC COD	22,222	3,028	372	1,131	227	4,520	31,500
YELLOWFIN SOLE	65,948	6,388	926	3,688	1,000	7,000	84,950
TURBOT	64,360	5,567	924	3,774	1,000	8,800	84,425
OTHER FLOUNDERS	40,510	4,029	632	1,919	1,000	5,566	53,750
ATKA MACKEREL	12,283	7,300	237	500	840	2,300	23,460
POLLOCK							
Bering Sea	721,090	72,540	11,060	32,310	6,690	86,760	930,450
Aleutians	72,976	7,190	1,145	4,699	750	13,240	100,000
PACIFIC OCEAN PERCH							
Bering Sea	1,232	260	55	140	21		1,708
Aleutians	4,259	340	70	160	116	800	5,745
SABLEFISH							
Bering Sea	1,554	326	52	160	28	330	2,450
Aleutians	465	111	26	40	8		650
SQUID	6,247	1,270	159	600	174	1,000	9,450
OTHER SPECIES	50,856	6,000	890	2,000	1,091	7,700	68,537
SNAILS	3,000						3,000
TOTAL	1,070,885	115,049	16,629	51,421	13,058	138,710	1,405,752

Source: Department of State

1980 Joint Ventures Catch

(METRIC TONS)

SPECIES	BERING SEA	GULF OF ALASKA
Flounder	2,721	
Pacific Cod	8,457	209
Pollock	10,662	510
Turbot	75	
Yellowfin Sole	9,626	
Miscellaneous	1,038	126
TOTAL	32,579	845

Note: Preliminary data
Source: Fisheries Management, Operations Branch, NMFS

1981 Foreign Fishery Allocations for the Gulf of Alaska

SPECIES	JAPAN	ROK	POLAND	RESERVE	TOTAL
Pacific Cod	25,031	3,864	1,504	13,935	44,334
Flounders	18,802	4,194	1,760	2,800	27,556
Atka Mackerel	5,898	2,000	4,000	12,474	24,372
Pollock	49,941	24,676	23,442	34,626	132,685
Pacific Ocean Perch	11,349	2,537	1,047	5,000	19,933
Other Rockfishes	2,500	2,000	544	1,000	6,044
Sablefish	3,375	628	95	475	4,573
Squid	2,891	800	300	500	4,491
Other Species	6,668	3,334	1,111	2,000	13,113
Sebastolobus	2,293	500	200	500	3,493
TOTAL	128,748	44,533	34,003	73,310	280,594

Source: Department of State, October 31, 1980

1981 Joint Ventures Allocations

(METRIC TONS)

SPECIES	BERING SEA	GULF OF ALASKA
Atka mackerel	100	2,415
Flounder	3,000	2,194
Pacific cod	17,065	3,499
Pacific ocean perch	1,860	2,935
Pollock	9,050	17,744
Rockfish	450	233
Sablefish	400	792
Squid	50	175
Turbot	75	
Other species	200	723
TOTAL	57,050	30,710

Source: Fisheries Management Operations Branch, NMFS

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The Domestic Market

United States Imports of Blocks and Slabs

SPECIES AND TYPE	1977		1978		1979	
	THOUSAND POUNDS	THOUSAND DOLLARS	THOUSAND POUNDS	THOUSAND DOLLARS	THOUSAND POUNDS	THOUSAND DOLLARS
Regular blocks and slabs:						
Cod	204,872	183,371	204,696	190,971	192,954	187,050
Flatfish:						
Turbot	4,594	2,944	4,352	2,684	5,361	3,791
Other	10,496	11,274	12,425	12,347	12,594	16,385
Haddock	30,815	27,023	27,026	26,101	18,308	18,439
Ocean perch, Atlantic	2,291	1,516	3,084	2,405	5,120	4,216
Pollock	82,960	41,880	81,294	50,560	86,583	53,631
Whiting	22,402	11,137	39,817	22,885	54,287	35,320
Other	8,091	6,063	14,231	9,730	11,284	8,460
Total	366,521	285,008	386,925	317,683	386,491	327,292
Minced blocks and slabs:*	18,617	6,686	19,361	7,684	21,661	10,073
GRAND TOTAL	385,138	291,694	406,286	325,367	408,152	337,365

*Most of the shipments were from Canada, Iceland, and Argentina.
Source: U.S. Department of Commerce, Bureau of the Census.

United States Supply of Edible Commercial Fishery Products

(ROUND WEIGHT)

YEAR	DOMESTIC		IMPORTS†		TOTAL
	MILLION POUNDS	PERCENT	MILLION POUNDS	PERCENT	MILLION POUNDS
1970	2,537	40.8	3,676	59.2	6,213
1971	2,441	40.5	3,582	59.5	6,023
1972	2,435	35.3	4,454	64.7	6,889
1973	2,398	33.7	4,709	66.3	7,107
1974	2,496	37.6	4,142	62.4	6,638
1975	2,465	38.6	3,929	61.4	6,394
1976•	2,760	37.4	4,629	62.6	7,389
1977•	2,900	39.1	4,514	60.9	7,414
1978•	3,177	30.1	4,958*	60.9	8,135
1979•	3,318*	40.2	4,933	59.8	8,251*

†Excludes imports of edible fishery products consumed in Puerto Rico, but includes landings of foreign-caught tuna in American Samoa.
•Preliminary.
*Record.

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By A.D. Chandler

PACIFIC SEAFOOD:

The Midwest market.

"I went out to dinner at a fancy hotel in Minneapolis — in fact, it was the one (President) Carter stayed at. Up there on the wall was a great big painting of this Alaskan king salmon. Called it the 'rare albino king salmon' and sold it on the menu for a small fortune."

Such was the story of a knowledgeable Minnesota fish broker. For those not in the know, the 'rare albino king' is no extraordinary delicacy. In fact, off the boat it usually sells for less than half the price of its more reknowned red cousin. The only reason it's rare is because most brokers don't have much call for it.

But then, that's the Midwest.

"Round here they wouldn't know the difference between an Alaskan and a Canadian (salmon) and probably couldn't care less. All *they* know is a salmon is a salmon is a salmon," said Bill Veach, president of the East Side Fish Market in downtown Des Moines.

So who cares? Apparently not too many people and for West Coast fishermen, packers and brokers, that might be cause for concern. The fact is there's a potential market back there in America's heartland.

From Williston, North Dakota down to St. Louis, the Missouri River ties it all together: Kansas, Nebraska, the two Dakotas, Iowa and to the north, Minnesota. It's an area known for its corn grown from deep, rich, black soil and for the hogs which eat it. Cattle are fed there and fattened for slaughter. Soybeans are raised and shipped to Japan.

All told, as an area, it's number one in hogs, cattle, corn and wheat. But when it comes to fish — forget it. Regional landings* hit 18.5 million pounds in 1979 or a tad more than Ocean City, Maryland. Dollar value was less than half the $6.8 million landed at Pt. Pleasant, New Jersey.

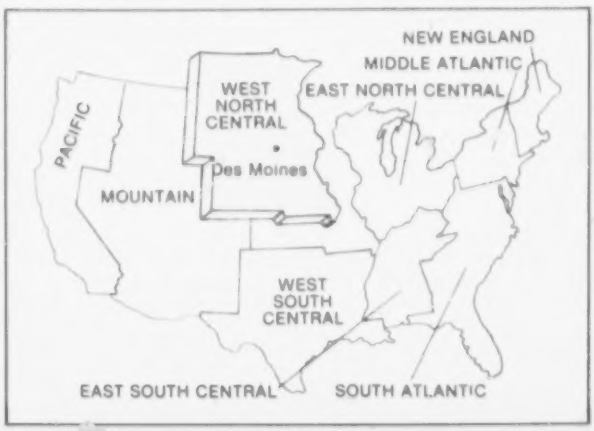
And though this should come as no surprise, it seems to have created an attitude towards salt water critters that coastal fishermen and processors should find repugnant. According to the most recent statistics at the National Marine Fisheries Service (NMFS), the region consumes only 7.9 pounds of fish per capita each year, by far the lowest in the country (the national average at the time was 11.8).

Meanwhile, in New England folks were gobbling down 17.6 pounds. Multiplied by the area's 11.8 million people and the total amount of seafood consumed works out to over 210 million pounds (figures have been rounded for simplicity). The figure is 40 percent greater than in the Missouri River region despite the fact that the latter has 4.5 milion more people.

If the figures are confusing, the bottom line is not. By 1980 there were more than 17 million people spread across the prairies who either were not partial to, or were unable to buy seafood.

"There's no question, no question about it . . . there's a market out there. I've been here five years and I've seen the potential," said Iowa's Joe Kammermeier. The Des Moines restaurateur runs a steak and seafood establishment called The Pier. As far as seafood, it's the biggest and possibly the most successful in the city.

Getting to that market is another question altogether.



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How Does It Play in Des Moines?

Most agree that Midwesterners are not prone to try something new on a whim. To many, the potential of seafood growth is limited by the area's lifelong allegiance to poultry, pork and beef.

"Why, we've got plenty of fish," reported one meat counter manager at a local Des Moines grocery chain, humored by the question over growth potential, "and as I see it, it'd be a hard row to hoe to make it any bigger than it is now."

Certainly, if matters were left to themselves he would most likely be right. But this result would not come through market resistance as much as sales inertia. The crucial problem appears to be that only a handful of people within the region have any reason to push fish. In 1977, according to data compiled by the U.S. Census Bureau, there were only 23 seafood specialists wholesaling their product throughout the seven-state area. More than half of those were in Minnesota. There were 69 in Washington. In Massachusetts, there were 146.

Moreover, while nationwide seafood wholesalers were on the upswing, they were declining in the Missouri River region. Between 1972 and 1977, Missouri's eight establishments fell to four. Nebraska's four dropped to two. Iowa, with nine in 1972, was left with three five years later. South Dakota wasn't left with any. Kansas, in the meanwhile, held steady with one. And North Dakota, the only gainer of the bunch, ended up with a similar figure.

This doesn't necessarily mean that seafood sales on the whole declined, although it does appear that their performance was sluggish when compared to elsewhere around the country. The difficulty in ascertaining total sales is the growing tendency of area meat packers and frozen food distributors to include a line of frozen seafood. While this makes excellent business sense, it does little in itself to stimulate growth.

"Well, you know, our prime concern certainly is in meat," said frozen food buyer Lois Winecoff, "but we carry just about everything the customer wants."

Market *development* is another thing, however. Salmon processors, for example, might be interested to find out that Winecoff's firm, Harker's Wholesale Meat Company of Le Mars, Iowa, doesn't carry any of their product. And until *someone else* drums up the demand for it, they won't be stocking it in the future either.

Nor should the company be written off as too parochial to be bothered with. While no giant, the Harker's sales staff does operate over a 12 to 14 state area. It has a big packing plant just up the Floyd River in nearby Orange City and works about 10 freezer trucks on the road at most times. According to Winecoff, it is representative of a number of the area's concerns.

If that's the case, West Coast processors and brokers might think about taking a trip down the wide Missouri. About 60 percent of the firm's fish sales come from frozen Atlantic portions, cod and perch primarily. Gulf shrimp are number two. Another popular item is fresh/frozen Mississippi-caught catfish. Their newest offering, introduced at the end of January, is king crab legs.

Winecoff expressed some interest when she learned that Alaska had some frozen bottomfish for sale, although she did sound somewhat surprised. Her interest waned, however, when she heard the price.

"They're all going higher and higher, cod especially, but pollock, too. They've just about reached meat levels now and if they don't stabilize, there could be problems," she predicted. Already, she limits her cod buying pretty exclusively to Canadian product "because it's cheaper than the others," (although she does stock a little Norwegian whitefish).

What development exists appears to be left to the few wholesalers and, perhaps, restaurateurs, who specialize in seafood. One of the former is the above-mentioned Bill Veach. With his East Side Fish Market, Veach has a virtual monopoly on the central Iowa fresh fish market. He bought out his only local competitor a year or so back.

---

* For those not familiar with the oft-forgotten Midwestern fishing industry, the major species include buffalofish, carp, bullhead and catfish. Further down on the list are such well-known items as suckers, paddlefish, mooneyes and gizzard shad.

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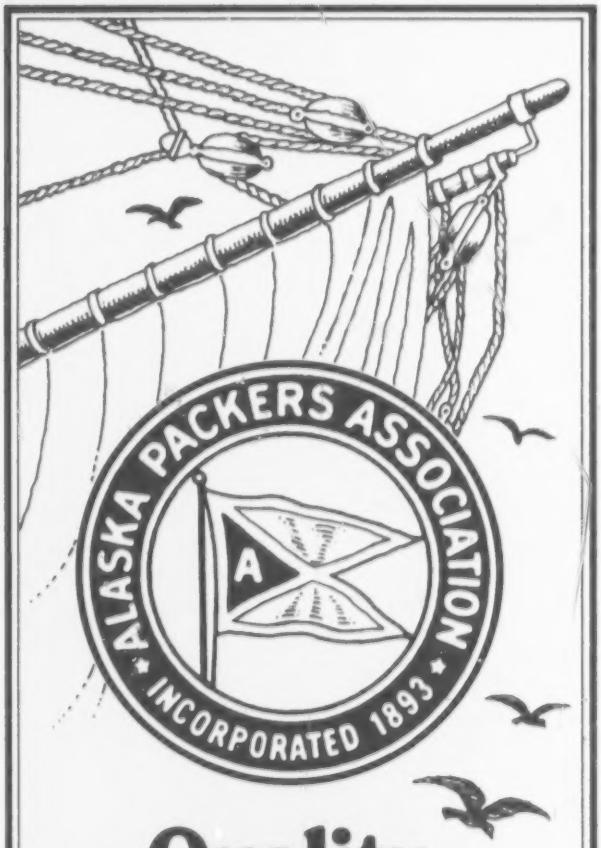

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Circle number 3 on the Reader Inquiry Card

Veach's combined wholesale and retail sales hover around the million-dollar mark. Like the area in which he lives, they have been growing. For, though Des Moines may be the smallest of the region's six large metropolitan areas (its population in 1978 was 338,000), it is a distribution center of the first rank.

In 1977, its 111 grocery and other food stores sold over $176 million worth of food. Its 302 restaurants netted another $71 million. Add on nearby Story County, the home of the Iowa State Cyclones, and those figures jump to $216 million and $92 million. In all, the city ranks 57th in the nation, larger than Anchorage, Buffalo and St. Paul, but slightly smaller than Sacramento, Ft. Lauderdale and Knoxville (population-wise it ranks 110th).

As a wholesale center, it's even stronger. At $2.795 billion a year in 1977, it ranked 49th, well ahead of Fort Worth, Miami and San Jose. All told, it had 40 food wholesalers (including: 11 general line grocery suppliers, 10 dairy, seven meat and meat products, seven frozen food, four poultry, and Bill Veach), most of which were probably capable of carrrying seafood, if they did not already do so.

Veach, however, appears to be the only one really pushing fish — at least, on the surface. And, boy, is he pushing it. In fact, if the National Marine Fisheries Institute ever begins handing out Bronze Stars, Bill Veach should be high on its list.

Considering his location, the Veach list of fresh fish is remarkable. It includes: bay scallops, bullheads, catfish, cod (Atlantic), carp, eel, Florida perch, Florida snapper, Gulf shrimp, lobster, oysters (Olympia and Chesapeake Bay), sea bass, sea trout, walleye, white perch, and the occasional salmon. He also carries a full line of frozen product which includes salmon, halibut, king crab legs and, when he can get it, West Coast ocean perch.

Besides doing about a half million dollars in wholesale work, the 51-year-old Iowa native has a similarly sized retail operation. Bolstering the latter is his fish sandwich lunch trade. Over the past two years, he reports to be growing at an annual rate of 16 percent. Just last May he opened a new showcase shop and warehouse which he said was worth almost $500,000.

His dad, who is now 78 and still in close touch with the business, started the operation back in 1937 when he went into partnership "with a meat man." The partner was bought out during the war. When Bill entered the business after leaving the service in 1955, things began to happen. First, the showroom was revamped and then, in 1961, completely remodeled. Ten years later his younger brother entered the firm, followed by Bill's own son in 1976.

Veach is a confirmed believer in market development and market education. He believes, for example, that his eight fish cookers have been "the salvation of the place." Not only is there a big demand for "the fried stuff" — which he sells by the pound — but its availability helps bring people inside his showroom where they might end up buying something for dinner.*

Despite the added expense, Veach "invariably" advises prospective seafood retailers to include a cooker in their plans.

Once he has got a new customer, the soft-spoken fishmonger does everything he can to keep him. "We're continually educating here," he said. To help in this chore, Veach passes out a 32-page booklet produced by a New York advertising company called *Fish Facts.**

"They are great little books. They tell you how to buy and what to look for, explain the best ways to cook and all sorts of propaganda. I go through them like a dose of salt and they only cost me 10½ cents each," he said.

Nor has Veach limited his horizons to Des Moines. With a small fleet of recently-purchased refrigerated trucks, he's been working out deals with "Lion's Clubs, Jay Cees and all those people who have charity premises behind them," to sell fish in their hometowns.

The way it works is that East Side loads up a truck and sends it to wherever the group is located. Their members then

make an inventory and sell what they can. Two days later Veach is back, makes his inventory, adds in $30 for the truck and sends the bill. If paid in cash, he offers a one percent discount.

Another thing which impresses Veach is clever advertising. He tells how he used to advertise with one radio station which had "good continuity writers. They came up with some real sharp ads — you know, the man-in-the-street sort of thing — and I'd have customers coming in and commenting on how they had heard the commercial and been impressed.

"Well, then the station changed its format, the ad people left, they changed my spots, and people stopped coming in. To be effective, you've just got to catch people's attention," he concluded.

The bulk of Veach's seafood comes from the South and East, largely for transportation reasons. To airfreight Olympia oysters, for example, costs $5 more a gallon than the dollar he pays to have Chesapeake Bay oysters trucked to his doors. Consequently, he has to charge more for the $18 Olympias than the $21.50 Chesapeake selects.

"The problem is that when you're dealing with packers,they really deal in big numbers and there are some of us who just can't lay in a bunch of stuff at a low price and expect people to come in and buy it before it spoils," he said.

It's one thing, he says, to order a shipment to Chicago or St. Louis, "but when you get into the smaller cities, like Des Moines and Omaha (and Topeka, Lincoln, Sioux Falls, Wichita, Fargo, Springfield and Duluth), it's just tough as nails to even get a truck."

What Veach would like to see is a way folks like himself could start out with small quantities and then increase their orders as they built up demand.

Given the right price, he has no qualms about being able to sell greater quantities of Pacific-caught fish, especially fresh salmon, which he'd like to be able to offer to his customers at $3.95 a pound.

He also expressed interest in rock cod, a fish he used to receive in "gobs," but which has become suddenly erratic over the last few years. Halibut has taken an even more serious dive.

Veach can remember selling three to four thousand pounds of halibut in slices every month. Now it takes nine months to go through that much. He apportions some of the blame on high prices due to lowered catch quotas. But even more, he cites the fallout from a 1972 mercury scare.

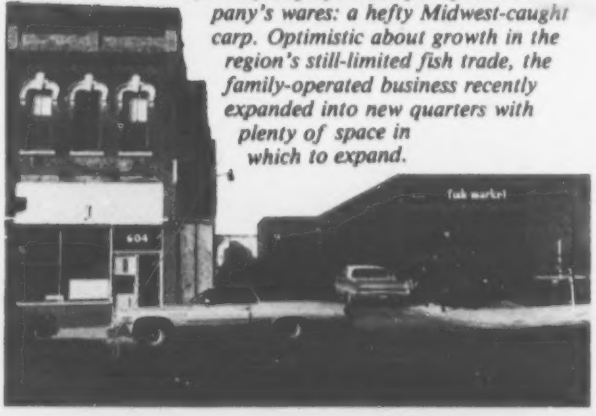
"Once the word was spread, it was hard as nails to get it reintroduced," he said. With prices lower than they've been in years (he's retailing the giant flatfish at $4.35 a pound, down from $5.50), Veach hopes he can begin rebuilding his halibut sales.

The East Side Fish Market has been criticized by some local merchants for their "ridiculously" high prices, but those who do so admit they are buying from frozen-only dealers who themselves deal in high volume.

In Des Moines, Bill Veach's market is an institution. There may be others like him in the Missouri River region, but it's not too likely. Until there are, the area will probably remain a backwater, unaffected by the rising tide of seafood sales.

ROBERT NANDELL

East Side Fish Market owner Bill Veach (above) displays a sample of his company's wares: a hefty Midwest-caught carp. Optimistic about growth in the region's still-limited fish trade, the family-operated business recently expanded into new quarters with plenty of space in which to expand.



• His big seller is a special batter-fried fish sandwich with hot peppers, created by his son. Ironically, while other convenience restaurants have added fish to round out their menus, Veach has been forced to add beef and pork (tenderloin and ham and cheese).

"We get a lot of folks from the capital (which is nearby) stopping in for lunch and I wanted to offer them a meat alternative on the days they didn't want to eat fish," he explained.

• The company and its address is: Scafati Ad-Sales Co., 69 Booth Street, Pleasantville, N.Y.

Andy Arntsen, Owner/Skipper, Shelikof Strait

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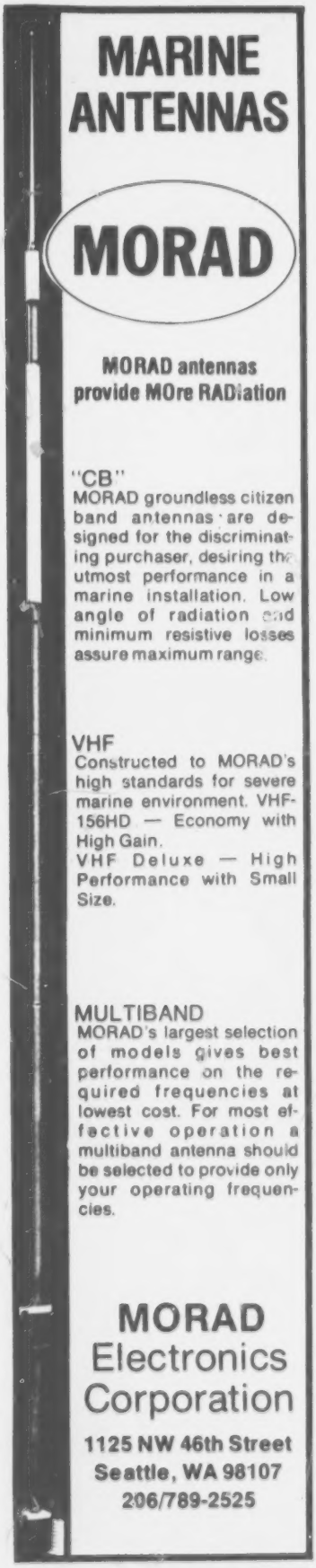
Northwest Cold Storage Holdings of Fishery Products*

(IN THOUSAND POUNDS)

	1976	1977	1978	1979	1980
FROZEN FINFISH					
Bait & Animal Food	7,123	8,696	4,054	6,315	6,717
Blocks & Slabs (Mostly pollock)	390	365	206	851	727
Fillets & Steaks					
Cod	928	758	1,393	1,610	817
Flounder & Sole	205	52	308	717	96
Halibut	328	2,293	1,228	1,124	1,566
Ocean Perch	60	126	243	428	60
Pollock			32	532	98
Salmon	93	107	759	177	226
Other Fillets & Steaks	1,157	1,781	2,124	2,304	1,335
TOTAL Blocks, Fillets & Steaks	3,161	5,482	5,293	7,743	4,925
Fish Sticks, or pcs (ckd & unckd)	392	155	295	744	507
Round, Dressed, etc.					
Halibut	5,347	2,940	1,962	8,242	6,476
Sablefish (blackcod)	789	954	1,335	1,811	1,301
Salmon: Chinook (kings)	4,417	8,321	6,574	5,429	5,298
Coho (silver)	5,146	7,578	6,563	13,953	8,760
Chum (fall)	4,530	7,587	8,308	5,817	10,808
Uncl.	2,071	5,356	3,022	10,755	4,419
TOTAL Salmon	16,164	28,842	24,467	35,954	28,785
Trout	500	775	590	450	449
Uncl. Finfish	1,189	1,236	1,081	1,493	703
TOTAL Round, Dressed, etc.	23,989	34,247	29,373	47,950	38,214
TOTAL FROZEN FINFISH	**34,665**	**48,580**	**40,015**	**62,752**	**50,363**
FROZEN SHELLFISH					
Clams & Clam Meats	406	499	703	790	588
Crabs & Crab Meat					
Dungeness (whole, sec, meat)	575	275	1,065	2,378	563
King: Meat	10,015	1,800	4,002	2,616	1,208
Sections (in shell)		14,913	14,906	21,153	23,509
Snow: Meat		1,105	1,220	785	627
Sections (in shell)		1,619	6,143	7,957	4,590
Unclassified	2,221	9	86	26	216
Lobster, Spiny (tails)	125	75	63	53	75
Oysters	1,034	443	494	320	1,039
Scallops	409	231	244	182	107
Shrimp: Raw, headless	702	3,536	2,766	1,824	2,326
Breaded		237	341	713	190
Peeled		1,255	3,513	2,597	817
All Other	2,058	283	900	54	298
Squid	35	76	103	106	124
Uncl. Shellfish	134	64	32	46	193
TOTAL FROZEN SHELLFISH	**17,714**	**26,420**	**36,581**	**41,603**	**36,470**
TOTAL FROZEN FINFISH & SHELLFISH	**52,379**	**75,000**	**76,596**	**104,355**	**86,833**
CURED FISH					
Herring, Salted	33	2	6	12	87
Salmon, Mild-cured	1	3	3		43
Other Salted Fish	91	131	45	25	69
Smoked or Kippered Fish	61	48	22	12	25
TOTAL CURED FISH	**186**	**184**	**76**	**49**	**224**

*Includes warehouses in Alaska, Colorado, Idaho, Oregon, Washington and Utah. A cold storage warehouse is any place artificially cooled to a temperature of 50 degrees F. or below, in which food commodities are stored and held for 30 days or more.

Note: End of November data
Source: NMFS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INTEGRATION *(cont. from page 55)*
have a current high quality, consistent, inexpensive, if foreign, supply?

"If you look at who's at the forefront of bottomfish development," consultant Lee Alverson points out, "it is largely the historical skippers that came out of the crab industry. They are not backed by any major food distributors. All the financial thrust I see at the present time is by people in the industry itself, trying to find a solution to how they can become competitive. I don't see the major food processors at this point jumping in and trying to solve it; they may wait until they think some of the guys have found the answers and then make their major investments, and let somebody else do the engineering and the experimentation."

Alverson brings up a question to be considered by small companies endeavoring to establish harvesting, processing and marketing operations. He asks "if you don't duplicate a lot of market costs and effort with a lot of small operations all trying to run their own marketing. One would wonder if they wouldn't want to integrate the marketing into one cooperative marketing operation." Certainly demand created by mass institutional and retail markets can accommodate numerous factory trawler operations.

But the threat of anti-trust violations would definitely enter into the scenario when companies on the same level in the chain begin to cooperate. Anti-trust suits rarely have involved fisheries; and the six or seven cases that have were tried back in the 40's. Recently a series of investigations has been instigated involving primarily price settlements in the salmon fisheries. Perhaps it is too early to relate anti-trust violations to the fledgling bottomfish industry, especially to truly vertically integrated companies, but attorney Greg Dahl warns, "we are dealing with a bunch of nebulous issues. An activity that people have done for years all of a sudden comes to the attention of the Justice Department and is measured against this yardstick of very nebulously defined anti-trust laws. You find out when you get in trouble. Most people, even lawyers, don't know the intricacies of these laws."

Assuming their conduct is not anti-competitive and assuming the market structure does not have anti-competitive results, a company is free under anti-trust laws to be vertically integrated. The problem, according to Dahl, is that a "purely vertically integrated company does not exist. A vertically integrated company can get into trouble because they buy their boxes from someone else; and they use a large market position to their advantage." Such is the name of the game in business, "saving costs, trying to get supplies for less than the other guy so you've got a competitive advan-

tage and can capture more of the market share."

The purpose of anti-trust laws is to make it a felony to conspire to restrain trade and interstate commerce. "The law is designed to promote efficiency in the provision of goods and services to the consumer at the lowest cost, and to generate free competition and innovation." Dahl outlines potential violations within the fishing industry: 1) Price fixing, which deters promotion of free competition. As long as a vertically integrated company is not transferring the product through a competitor, he is not affected. 2) Tying agreements are illegal and occur when a company agrees to sell a quantity of a certain product only if another, perhaps less desired, product is bought simultaneously. 3) Secondary boycotts are also prohibited by anti-trust laws. If a group of fishermen see someone undercutting their price and visit a supplier of fishermen with the threat 'If you sell to Joe, we will put you out of business,' their actions are illegal.

"A vertically integrated company may also become the victim of anti-trust actions of others," explains Dahl. Fishermen for the company may receive threats because they are able to sell for less, resulting in other processors' lowering their prices to fishermen in order to compete with the subsequent lower prices of the vertically integrated company.

An alternative offered only to primary producers, or fishermen, is the establishment of a cooperative, which is exempt from certain anti-trust provisions, allowing price fixing. Dahl notes that 85 percent of agricultural products are handled through co-ops in this country, yet less than one percent of fish products pass through co-ops. Essentially a co-op is a vertically integrated company owned by fishermen rather than outside investors. Processors cannot form co-ops. Only groups that have production capacity, some means of processing, either through their own plant or through a contractual arrangement with a processor, and a means of distributing the product, can use anti-trust exemptions.

The Halibut Producers Cooperative (HPC) is an example of a true operating co-op. Their fishermen are paid roughy 75 percent of the ex-vessel value of the fish when they unload. At the end of the year, and again halfway through the next year, they receive additional payments, hopefully the total exceeding the ex-vessel price. "When the fisherman delivers the fish he isn't done with it until we actually sell it," says Dick Van Egdom, in the accounting division of the HPC. Twelve fishermen elected to the board supervise processing and marketing of the catch. "We take the place of one of the middlemen in the business."

(Continued on page 95)

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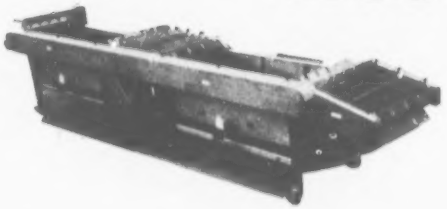

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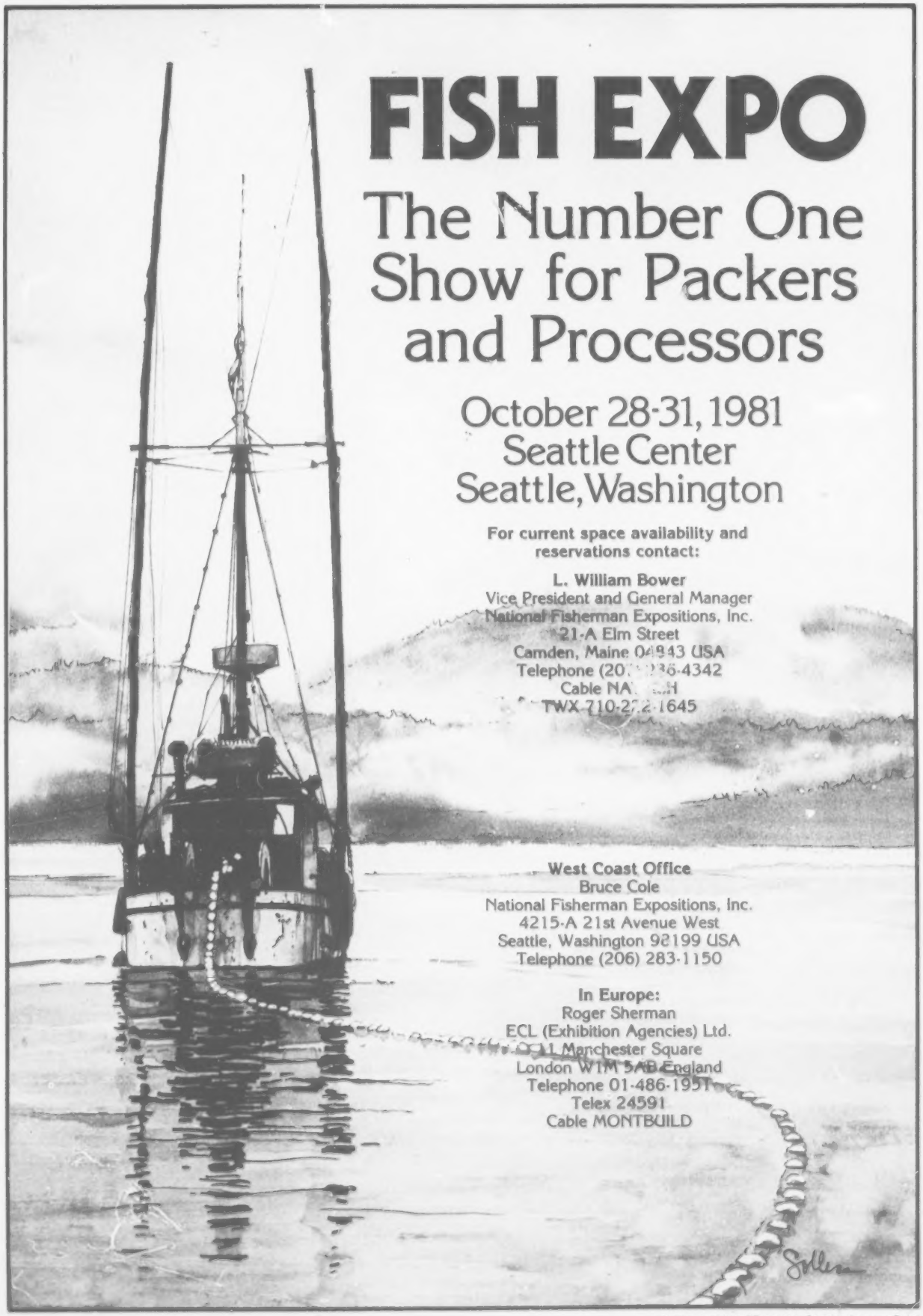

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INTEGRATION *(cont. from page 93)*

Asked whether the cooperative has been able to use its anti-trust exemptions, Van Egdom noted the small role the HPC plays in the market place. Concentrating on troll salmon, the HPC represents two or three percent of the market. However, information pertaining to settlements of the HPC over the past five years has been subpoenaed by anti-trust investigators, not necessarily indicating an investigation of the co-op itself.

Other vertically integrated companies have responded in the same manner when asked if anti-trust violations are a concern to them. J. King Shanks of Continental Marine Corporation believes "it is something you have to be conscious of. In our case we are not in that magnitude of the business. Hopefully, we'll reach the point where we'll have problems."

One question which remains in this vertically integrated world of bottomfish is the role traditional processors and brokers will play. Gary Kuhar of the Economic Development Council presently sees "fishermen looking at processors and saying, 'Gee, I can do that and make their profit,' processors looking at brokers and saying, 'We don't need to give them five percent anymore, let's take it for us and market it ourselves.' Across the board, people are looking at their immediate superior on the ladder of marketing fish and saying, 'We can do that.' We have a great shifting . . . some people are going to be shifted right off the ladder." Sound like those people may be the brokers?

As far as their involvement in the bottomfish industry, Pigott would like to see the brokers shifted out of the picture. "The broker's background in the fishing industry was based upon canned salmon in our area. And they think like canned product people. They don't think like fresh people. We are moving from a canned market, a preserved market, to a frozen market. These people just don't have the feeling. They can't work fast enough. Our present brokerage system is not geared for the future fishing industry."

Although he would like to get rid of them, Pigott recognizes the inroads brokers have made and vertical integration's potential for them. "Some of these vessels [factory trawlers harvesting and processing bottomfish] are going to be smart enough not to go into partnership with a processor but with a broker, and the two of them are going to sell directly to Mrs. Paul's."

Most industry advisors and active members see vertically integrated companies coexisting with independently owned vessels selling to unrelated processors who pay a broker five percent to market their product. Although major processors have resisted cooperatives, viewing them as competition, Greg Dahl believes processors should see that "getting fishermen organized into effective marketing co-ops, processors could stabilize their supply of product. They would be able to enter into very favorable contract arrangements for processing of the co-op product: take a processing fee and not have to take the risk of the downturn of the market. Fishermen themselves take that risk."

Dahl works with one company which has used the concept of vertical integration to such advantage, they have penetrated traditional east coast markets for fresh fish. Essentially their product is sold before it is caught, and they catch to custom order. Word passes from the salesman to the processing plant foreman to the skipper of the vessel: "We have an order for 50,000 pounds of petrale sole." Dahl notes that traditionally "fishermen would come in and throw a load of fish on the dock. The plant would process it into some product and the foreman would get on the phone to some broker to see if they wanted it."

With a tight money supply and an uncertain economic future as Washington, D.C., changes administrations, developments within the fishing industry are not expected to occur rapidly. However, the concepts and advantages of vertical integration can be incorporated into the present structure. More and more fishermen are processing their own product, if only on a small scale. As Gary Kuhar said, "the vertical integration bug is biting."

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In response to the need for data in the fall, this year there will be a second issue of Pacific Packers Report published in September. It will contain the best current year preliminary seafood production data available. Even more important, the new September issue will take a hard look at markets, prices and trends to watch for in selling the 1981 seafood harvest, and will provide an unexcelled financial forecast for the seafood industry.

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Foreign Markets

Japanese Imports of Major Fishery Products

PRODUCTS	JAN.-NOV. 1979 QUANTITY (MT)	JAN.-NOV. 1979 CIF VALUE (US$ MILL)	JAN.-NOV. 1980 QUANTITY (MT)	JAN.-NOV. 1980 CIF VALUE (US$ MILL)
Salmon, frozen	47,197	228.8	29,780	102.6
Crab, frozen	32,838	159.7	26,793	106.4
Salmon Roe, salted	6,667	104.6	9,268	90.4*
Salmon Roe "Ikura"	50	0.9		
Herring Roe, salted or dried	1,090	31.0		
Herring, frozen	6,325	16.5		
Sea Urchin Roe	653	9.4		
Bluefin Tuna, fresh	769	6.3		
Herring Roe on Kelp	293	2.6		
Squid, frozen	2,844	3.2		
Shrimp, frozen	273	2.6	998	9.1
Abalone, fresh or frozen	121	0.9		
Lobster, live, fresh, frozen	29	0.2		
Pollock Roe, frozen	52	0.2		
Pollock Roe, salted	20	0.2		
TOTAL•	99,221.6	567.1	104,600	388.5
Comparison to previous year	(+28.2%)	(+30.4%)	(+5.4%)	(−31.5%)

*Includes all roe
•1980 totals include fresh, smoked, dried and canned fish.
Note: Exchange rate: U.S. $1 = 209 Yen in Jan-Nov 1978.
U.S. $1 = 220 Yen in Jan-Nov 1979.
U.S. $1 = 222 Yen in Jan-Nov 1980.
Source: U.S. Dept of Commerce

Japan's Fisheries Trade

(US$ MILLION)

YEAR	WITH THE UNITED STATES IMPORTS FROM U.S.	WITH THE UNITED STATES EXPORTS TO U.S.	JAPAN'S TOTAL IMPORTS	JAPAN'S TOTAL EXPORTS
1970	24	117	318	391
1971	29	114	437	418
1972	25	194	618	527
1973	89	226	1,099	636
1974	56	214	1,107	692
1975	73	128	1,298	568
1976	96	192	1,904	746
1977	233	148	2,463	690
1978	503	161	3,252	823
1979	568	N/A	4,200	885

Source: Regional Fisheries Atache, American Embassy, Tokyo and NMFS.

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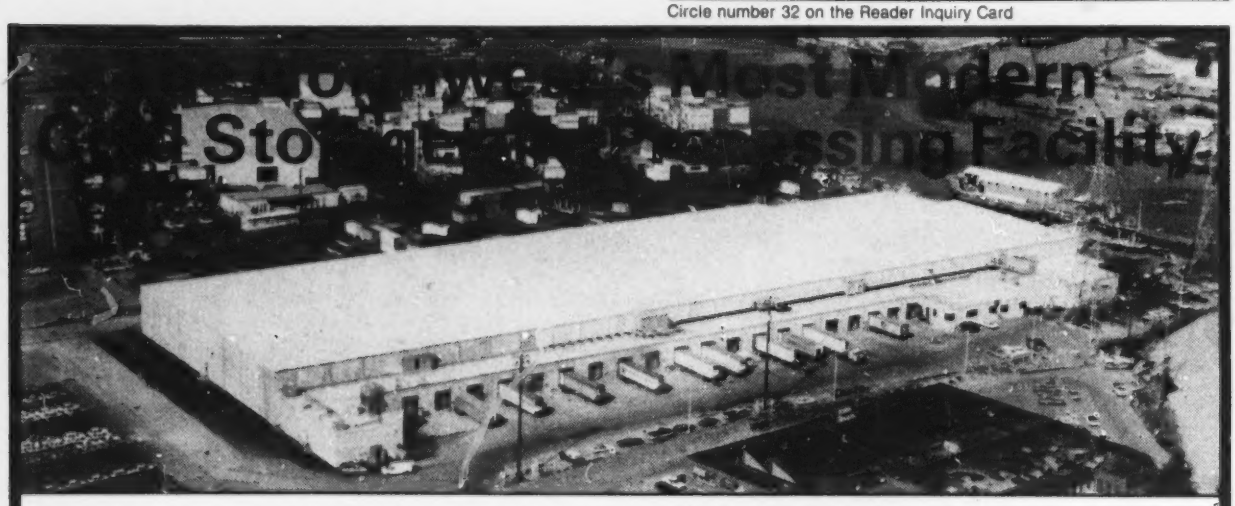

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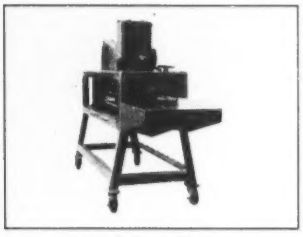
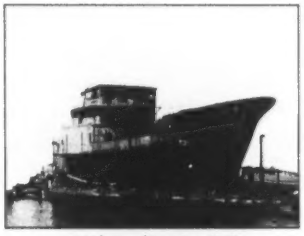
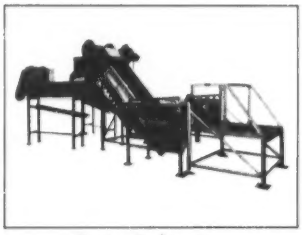


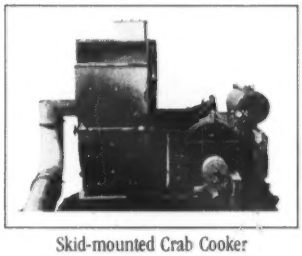
1200 Salmon Slimer



131' Combination Hull



Herring Packing Line



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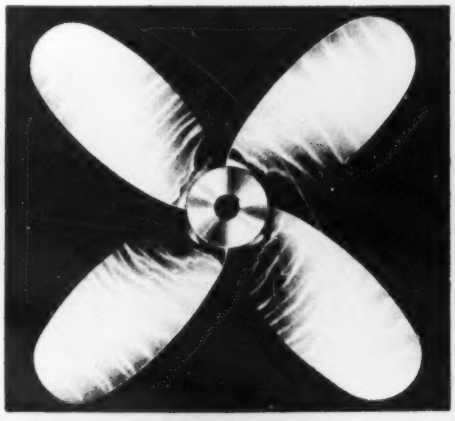

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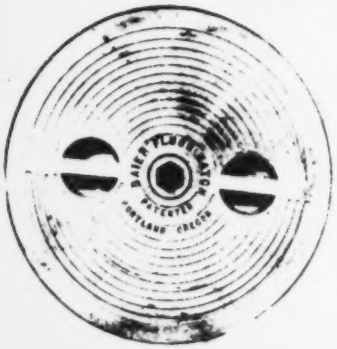

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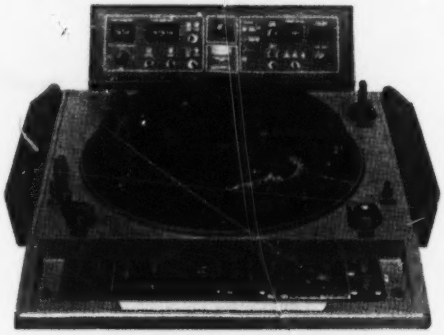

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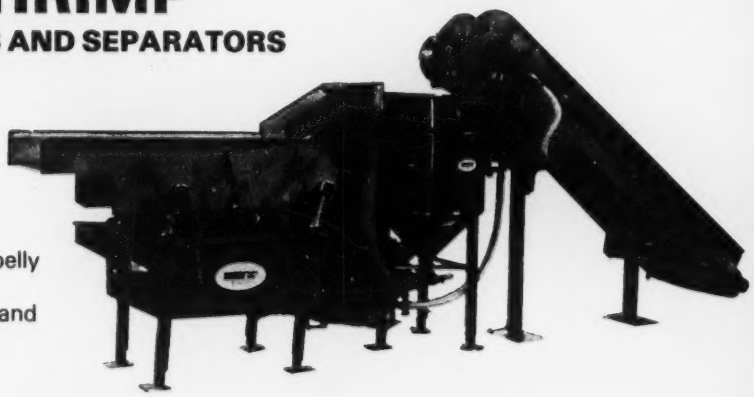

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Aquaculture

West Coast Public Hatchery Releases

(RELEASES OF FISH IN MILLIONS)

PROGRAM	SUMMER CHINOOK	SPRING CHINOOK	FALL CHINOOK	COHO	CHUM	SOCKEYE	PINK	TOTAL
WASHINGTON (1979)								
Washington Dept. of Fisheries	2.93	9.25	75.14	58.45	59.47	7.90		213.14
U.S. Fish & Wildlife Service	.24	6.20	43.05	5.56	8.15			63.20
Tribes		20	2.80	2.80	18.61	48		24.89
WDF-Cooperative		.03	1.38	.74	3.00	1.71		6.86
TOTAL WASHINGTON	**3.17**	**15.68**	**122.37**	**67.55**	**89.23**	**10.09**		**308.09**
OREGON (1979)								
Oregon Dept. of Fish & Wildlife								
Columbia River		8.80	28.00	8.90	.90			46.60
Coastal		1.50	2.40	4.50				8.40
Federal Hatcheries								
Columbia River		.90		1.20				2.10
TOTAL OREGON (1979)		**11.20**	**30.40**	**14.60**	**.90**			**57.10**
OREGON (1980 - Projected)								
Oregon Dept. of Fish & Wildlife								
Columbia River		38.55		7.53	.76			46.84
Coastal		3.30		9.22				12.52
Federal Hatcheries								
Columbia River		1.4		1.5				2.90
TOTAL OREGON (1980)		**43.25**		**18.25**	**.76**			**62.26**
IDAHO (Oct. 1, 1979 - Sept. 30, 1980)								
Idaho Dept. of Fish & Game	.12	4.54		1.03				5.69
Federal Hatcheries		.76	.22					.98
TOTAL IDAHO	**.12**	**5.30**	**.22**	**1.03**				**6.67**
ALASKA								
Alaska Dept of Fish & Game (1980)		5.88*		1.67	9.77	9.26	31.46	**58.04**
CALIFORNIA (Oct. 1979 - Sept. 1980)								
Federal			16.23					**16.23**
State (1980)			19.93*	1.28				**21.21**
TOTAL CALIFORNIA			**36.16**	**1.28**				**37.44**
BRITISH COLUMBIA		15.45*		4.12	75.33	175.00	3.57	**273.47**

*All Chinook

Source: State and provincial fisheries agencies.

Alaska Private Nonprofit Hatchery Releases and Returns

(NUMBERS OF FISH)

	1977		1978		1979		1980	
	RELEASES	RETURNS	RELEASES	RETURNS	RELEASES	RETURNS	RELEASES	RETURNS
Alaska Aquaculture Foundation, Inc.								
Burnett Inlet, Wrangell								
Pink					2,000,000		250,000	800
Douglas Island Pink & Chum, Inc.								
Kowee Creek, Juneau								
Pink					2,200,000	10-20,000	2,178,500	5,000
Chum					50,000		224,104	
Total					2,250,000	10-20,000	2,382,604	5,000
Prince William Sound Aquaculture Corporation								
Port San Juan								
Pink	10,500,000	40,000	16,940,000	154,620	23,000,000	500,000	21,576,000	1,493,090
Chum	15,000		1,014,000		250,000		395,000	1,390
Total	10,515,000	40,000	17,954,000	154,620	23,250,000	500,000	21,971,000	1,494,480
NERKA, Inc.								
Perry Island, Prince William Sound								
Pink							200,000	450,000
Sheldon Jackson College Aquaculture Program								
Indian River, Sitka								
Pink	1,593,184	120,147	7,147,874	5,777	2,500,000	48,000	7,650,000	5,540
Chum	186,877				600,000		50,000	200
Coho							12,196	*
Total	1,780,061	120,147	7,147,874	5,777	3,100,000	48,000	7,712,196	5,740
Southern Southeast Regional Aquaculture Association								
Whitman Lake, Ketchikan								
Chum							2,672,000	
Coho							549,000	
Total							3,221,000	
Total, All Programs								
Pink	12,093,184	160,174	24,087,874	160,397	29,700,000	558,000	31,834,500	1,504,880
Chum	201,877		1,014,000		900,000		3,341,104	1,590
Coho							561,196	*
GRAND TOTAL	**12,295,061**	**160,174**	**25,101,874**	**160,397**	**30,600,000**	**558,000**	**35,736,800**	**1,506,470**

*Return in progress

Note: 1980 returns preliminary

Source: ADF&G

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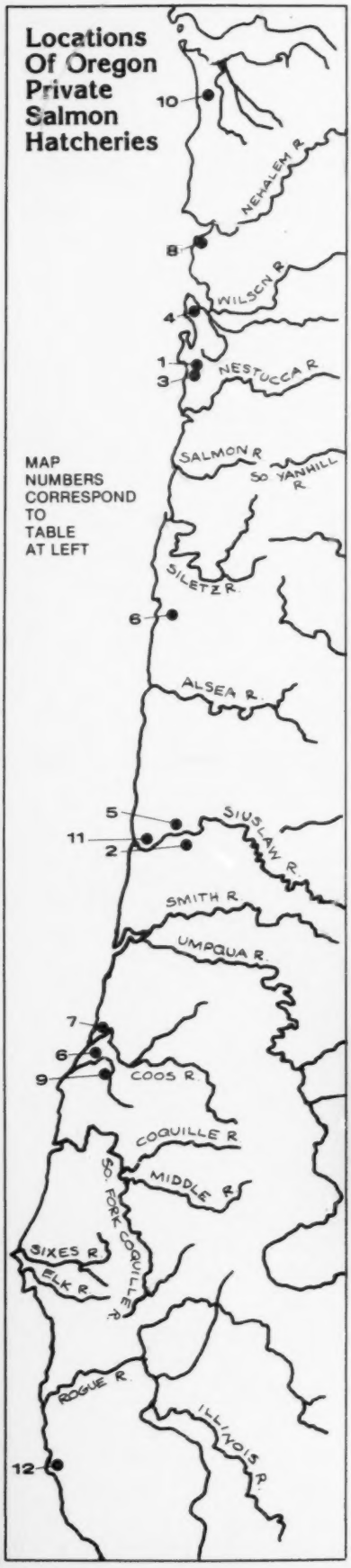
Oregon Private Salmon Hatcheries

MAP NO.	COMPANY NAME AND LOCATION	RELEASE LIMIT (MILLIONS)			YEAR OF FIRST RELEASE			TOTAL RELEASES TO SEPT. 1, 1980 (MILLIONS)			
		Coho	Chinook	Chum	Coho	Chinook	Chum	Coho	Spring Chinook	Fall Chinook	Chum
1	Keta, Inc. Sand Creek, Sand Lake			5.0			1972				3.28
2	Siuslaw Fisheries, Inc. Sweet Creek, Siuslaw River			5.0			1973				2.14
3	Alfred Hampson Sand Creek, Sand Lake			5.0		no releases			no releases		
4	Cecil Harris and Don Hugie Dick Creek, Tillamook Bay			0.1			1973				.03
5	Ceratodus Fisheries Divide Creek, Siuslaw River			5.0			1975				.50
6	Oregon Aqua Foods, Inc. Manmade Tributaries, Yaquina Bay Coos Bay	9.5 11.3	10.6 9.4	20.0 20.4	1974 1977	1974 1979	1973 1979	21.79 5.31	1.11 .31	74	1.07 8.21
7	Anadromous, Inc. Manmade Tributary, Coos Bay	5.0	5.0		1976	1975		4.52	.20	1.14	
8	A. Manseth and J. Jaqua Vosberg Creek, Nehalem Bay			5.0		no releases			no releases		
9	Calvin Heckard Unnamed Tributary, Coos Bay			5.0		no releases			no releases		
10	Robert Stricklin Unnamed Tributary, Skipanon Road			5.0		no releases			no releases		
11	Domsea Farms, Inc. Manmade Tributary, Siuslaw Bay	12.0	12.0	25.0	1978	1978		1.38		.12	
12	Burnt Hill Salmon Ranch, Ltd. Burnt Hill Creek		5.0			1980			no releases until fall		
								GRAND TOTAL			
								33.00	1.62	2.00	15.23

Source: Oregon Dept. of Fish and Game

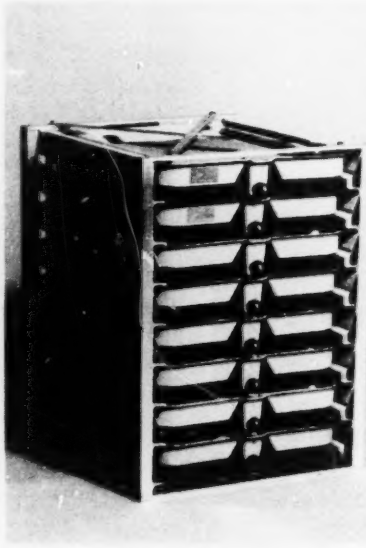


Oregon Private Salmon Hatchery Releases

YEAR OF RELEASE	SPRING CHINOOK	FALL CHINOOK	COHO	CHUM	TOTAL
1972				51,150	51,150
1973		10,025		276,375	286,400
1974		1,018,277	87,782	572,082	1,681,141
1975	5,551	17,982	142,032	2,792,930	2,958,495
1976	161,251	147,662	2,079,834	2,447	2,391,194
1977	42,079		2,370,690	120,400	2,533,169
1978	15,790	522,101	9,907,874	465,174	10,910,939
1979	1,397,131	222,811	5,811,741	10,940,199	18,371,882
1980	717,776	156,686	14,814,282	8,000	15,696,744

Note: 1980 date preliminary
Source: Oregon Dept. of Fish & Game

When building a new salmon or trout hatchery or expanding your present one, check with Heath Tecna for incubation equipment.



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For information on Heath Tecna fish culture equipment and systems, please contact:

Heath Tecna Corporation
19819 84th Avenue South
Kent, Washington, U.S.A. 98031
(206) 872-7500

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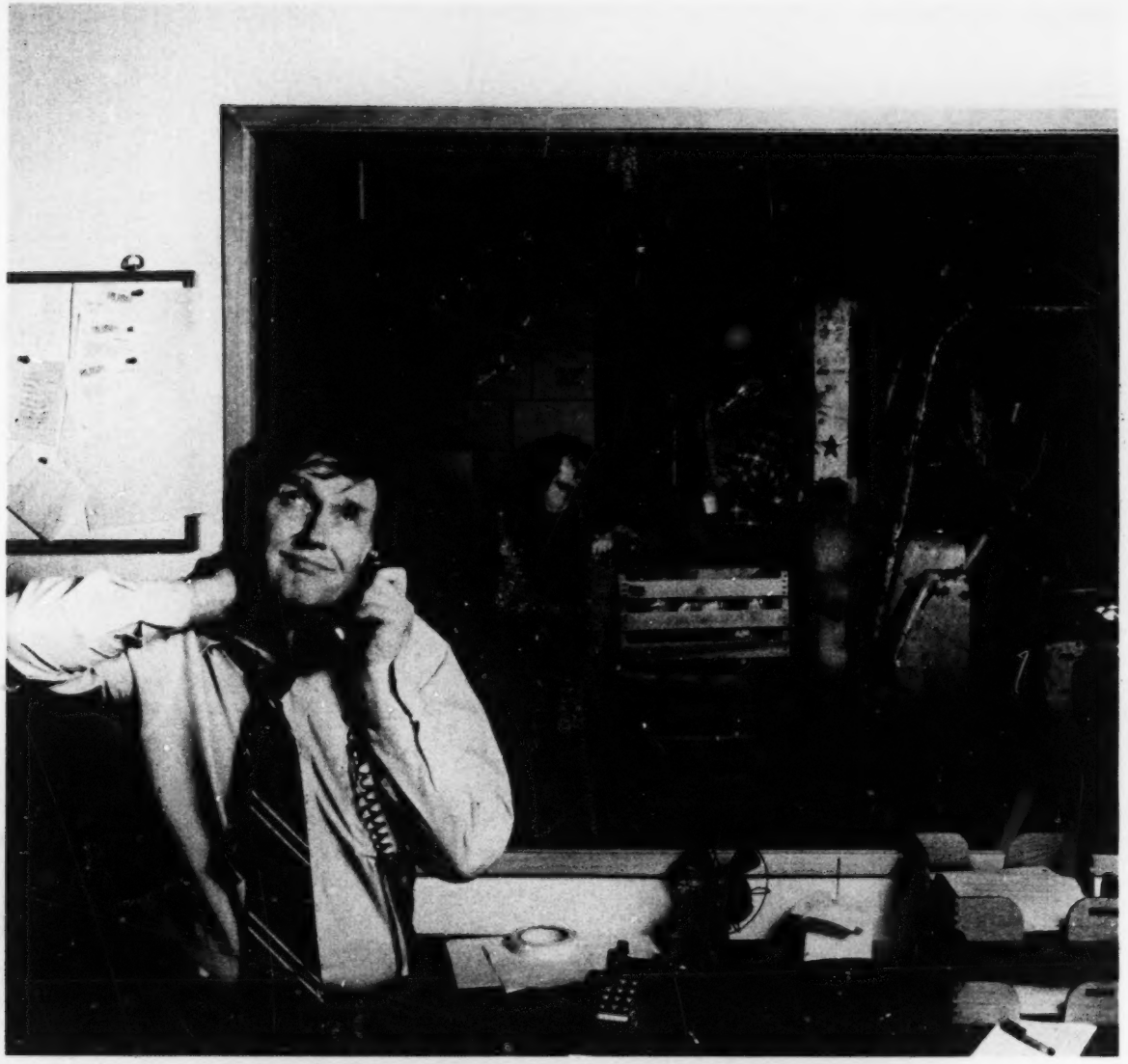

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Tohto Suisan Co. Ltd.
Personnel:
Mr. Yamagishi, President;
Mr. Miki, Purchasing Agent;
Mr. Katsumata, Plant Mgr.
Plant Locations and Capabilities:
Vancouver — Fresh & frozen salmon, herring, halibut, blackcod

ALASKA FAR EAST CORP.
103 - 200 W. Thomas Bldg.
Seattle, WA 98119
(206) 285-2153
Telex: 32-1147
Parent Company:
Trans Asiatic Inc.
Personnel:
Joseph Weber, General Manager & Purchasing Agent
Plant Locations and Capabilities:
Naknek, AK — Salmon, herring, kelp (fresh/frozen); King Salmon — Salmon, herring, kelp
Brand Packed Under:
T-A-I Brand

ALASKA FRESH SEAFOODS, INC.
C-3 Bldg., Room 131
Fishermen's Terminal
Seattle, WA 98119
(206) 285-2412
Telex:32-1295 OCEAN FRSH SEA
Personnel:
Ted. L. Otness, President;
David Woodruff, Vice President
Plant Locations and Capabilities:
Kodiak, AK — King, snow, dungeness crab, salmon (all frozen)
Brand Packed Under:
Alaska Fresh

ALASKAN GOURMET, INC.
1130 W. International
Airport Rd.
Anchorage, AK 99502
(907) 274-9508
Telex: 25-327
Personnel:
Paul L. Schilling, President;
Paul MacIntyre, Plant Manager
Plant Locations and Capabilities:
Anchorage, AK — Fresh/frozen halibut, salmon, smoked fish
Brand Packed Under:
Alaskan Gourmet

ALASKA PACKERS ASSOCIATION, INC.
1200 112th Avenue N.E.
P.O. Box 3326
Bellevue, WA 98009
(206) 455-1745
Telex: 32-8914
Parent Company:
Del Monte Corporation
Personnel:
W.H. Nichols, President; E.D. Bickley, V.P. Marketing; C.O. Perkins, V.P. Operations, Alaska; T.E. Libby, V.P. Operations, Point Adams; J.W. Weaver, V.P. & Controller; G.L. Thomas, Mgr., Distribution & Production Services
Plant Locations and Capabilities:
Naknek, AK — Canned salmon Kodiak, AK — Frozen shrimp, crab; Chignik, AK — Frozen salmon, crab; Hammond, OR — Frozen salmon, shrimp, bottomfish, crab; Newport, OR — Frozen shrimp, crab, bottomfish
Brand Packed Under:
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4241 21st Avenue West
Seattle, WA 98199
(206) 285-3350
Telex: 32-8785 ALSHEL SEA
Personnel:
R.S. Jones, Chairman; P.J. Marinkovich, President; Arthur Kalberg, V.P. Finance; Molly M. Boll, V.P. Marketing
Plant Locations and Capabilities
Western Alaska — Frozen king & snow crab; Eyemouth, Scotland — Frozen shrimp, king & snow crab
Brand Packed Under:
Alaska-Shell, Iceberg, Stuart-Shell

ALL ALASKAN SEAFOODS, INC.
2009 Minor Avenue East
Seattle, WA 98102
(206) 322-3730
Personnel:
Lloyd Cannon, President; Ken Bowhay, V.P. & General Manager
Plant Locations and Capabilities:
Floating processing ship, Bristol Bay, Port Moller & Kodiak — Frozen king, snow crab, salmon, herring
Brand Packed Under:
All Alaskan

ALLIED FISHERIES, INC.
P.O. Box 1677
Bellingham, WA 98227
(206) 676-1069
Personnel:
Ted Lloyd, President; Gary A. Mitchell, Vice President; A.J. Vitaljic, Secretary-Treasurer
Plant Locations and Capabilities:
Forest Lane, Cascade Locks, Oregon — Fresh salmon, dressing facilities only

AMERICAN EAGLE SEAFOODS, INC.
Box 1310
Cordova, AK 99574
(907) 424-7354 or
(206) 624-2679
Personnel:
Steven R. Smith, President
Brand Packed Under:
Kyokko Suisan

ANNETTE ISLAND PACKING CO.
Box 70547
Seattle, WA 98107
(206) 782-8882
Personnel:
Karl Cook, Sr., Manager
Plant Locations and Capabilities:
Metlakatla, AK — Cannery and cold storage. Canned product — Salmon. Frozen — Salmon, halibut, blackcod

ARROWAC FISHERIES
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Ferndale, WA 98248
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Telex: 32-8432
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Personnel:
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Plant Locations and Capabilities:
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Brand Packed Under:
Arrowfish

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Vancouver, B.C.,
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(604) 669-3741
Telex: 04 508829
Parent Company:
Calkins & Burke Ltd.
Personnel:
D.B. Calkins, President; S. Miller, Plant Manager
Plant Locations and Capabilities:
329 Railway Street, Vancouver — Frozen, fresh salmon, halibut, cod, herring, shrimp, crab
Brand Packed Under:
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BELL BUOY CRAB COMPANY
P.O. Box 46
Seaside, OR 97138
(503) 738-6354
(503) 325-6240
Personnel:
Clarence E. Sigurdson, President; Mervin A. Smith, Sales Manager; Roy A. Sigurdson, Asst. Manager
Plant Locations and Capabilities:
1800 S. Holladay Drive, Seaside, Oregon
Brand Packed Under:
Bell Buoy

BELLINGHAM COLD STORAGE CO.
Squalicum Fill
P.O. Box 895
Bellingham, WA 98225
(206) 733-1640
Telex: 15-2103
Parent Company:
Bellingham Cold Storage Development Company
Personnel:
James G. Talbot, President; Dennis Handel, Vice President; Tim Unger, Plant Manager
Plant Locations and Capabilities:
Bellingham, WA — Fresh and frozen fish and shellfish

BLAKES CANNING
2205 Eyak Lake Rd.
P.O. Box 94
Cordova, AK 99574
Personnel:
Robert H. Blake, President; Margaret C. Blake, Sales Manager
Plant Locations and Capabilities;
Cordova, AK
Brand Packed Under:
Blakes Fancy Smoked Salmon

BLANTON OYSTER CO./SKOOKUM BAY OYSTER CO.
Route 1, Box 202
S.E. 413 Allen Road
Shelton, WA 98584
(206) 426-8996
(206) 426-6076
Personnel:
John G. Blanton/James D. Edwards, Owners
Plant Locations and Capabilities:
Skookum Bay-Skookum Bay Oyster Co. — Fresh Pacific oysters; Blanton Oyster Co. — Fresh Olympian oysters
Brand Packed Under:
Skookum Bay Oyster Co.

BLAU OYSTER CO., INC.
919 Blue Heron Rd.
Bow, WA 98232
(206) 766-6171
Personnel:
Paul E. Blau, President; E. Peter Nordlund, Sales Mgr.; John E. Blau, Plant Mgr.
Plant Locations and Capabilities:
Samish Is. — Oysters, live in shell, fresh pack-shucked
Brand Packed Under:
Blau's

BRITISH COLUMBIA PACKERS LTD.
P.O. Box 5000
Vancouver, B.C.
Canada V6B 4A8
(604) 277-2212
Telex: 04-355583
Parent Company:
George Westons
Personnel:
J.B. Buchanan, President; P.A. Todd, V.P. Marketing; B. Rosenburg, Purch. Agent; S. Shelley, V.P. Mfg.
Plant Locations and Capabilities:
Vancouver, Pt. Edward, Naknek — All fresh, frozen and canned salmon, frozen herring, fresh and frozen groundfish
Brand Packed Under:
Cloverleaf & Paramount (canned); Rupert (frozen

BUMBLE BEE SEAFOODS
Castle & Cooke Building
Fishermen's Terminal
P.O. Box 17705
Seattle, WA 98105
(206) 284-0900
Parent Company:
Castle & Cooke, Inc.
Personnel:
Ronald Jensen, General Manager; Lee Patton, Sales Manager
Plant Locations and Capabilities:
South Naknek, AK — Frozen/Cannery, salmon; Newport, Astoria, OR — Frozen shrimp, salmon, tuna, bottomfish, Dungeness crab; Bellingham, WA — Cannery/Frozen salmon; San Diego, CA, Hawaii, Puerto Rico — Canned tuna
Brand Packed Under:
Bumble Bee, Swiftwater, Delmonico, Harpoon, Cloverleaf, Tuxedo, Commerce, Beacon, Portrait

CALIFORNIA SHELLFISH CO.
420 Jefferson St.
P.O. Box 2028
San Francisco, CA 94126
(415) 775-9241
Telex: 336321
Personnel:
Robert J. Bugatto, President; Hugh C. Lavan, Sales Mgr., International Div.
Plant Locations and Capabilities:
Cal-East Foods, Oakland, CA, Buz Cano, Mgr. Distributor — Fresh, frozen, cured; West Coast Crab Co., Oakland, CA, Pete Cresi, Mgr. Distributor — Fresh, frozen, cured
Brand Packed Under:
Point St. George, Hallmark, Pacific Pride

CERTI FRESH, INC.
13055 Molette
Santa Fe Springs, CA 90670
(213) 921-8311
Parent Company:
B.C. Packers & Weston Co. Canada
Personnel:
Richard Gregory, President; Eugene Deiss, Vice President; Mike Rexroth, Plant Mgr.
Plant Locations and Capabilities:
Santa Fe Springs — Halibut, sole, cod, whiting, snapper, rockfish, perch, pollock, frozen blocks and IQF
Brand Packed Under:
Certi Fresh, Superior, private labels (food service & retail)

CHINOOK PACKING COMPANY
P.O. Box 206
Chinook, WA 98614
(206) 777-8302
Personnel:
Mel Leback, President; Grant Larson, Sales Manager
Plant Locations and Capabilities:
Chinook, WA — Salmon, shrimp, Dungeness crab, fillets, fresh or frozen
Brand Packed Under:
Man of War

COAST OYSTER COMPANY
P.O. Box 166
South Bend, WA 98586
(206) 875-5565
Personnel:
D. Halldorson, President; A. Waring, Sales Mgr., Fresh/Frozen; S. Halldorson, Canned
Plant Locations and Capabilities:
South Bend, WA — Fresh, frozen, canned, Richard Murakami, Plant Mgr.; Markham, WA — Fresh, Gerald Abercrombie, Plant Mgr.; Poulsbo, WA — Fresh, Al Persson, Plant Mgr.; Eureka, CA — Fresh, frozen, Leonard LaBranche, Plant Mgr.
Brand Packed Under:
Willapoint, Haines

COLUMBIA WARDS FISHERIES
88 East Hamlin Street
P.O. Box C-5030
University Station
Seattle, WA 98105
(206) 323-3200
Telex: 32-8759
Plant Locations and Capabilities:
Alitak, AK, Winn F. Brindle, Superintendent; Ekuk, AK, J.A. Ekern, Superintendent; Kenai, AK, Raymond E. Landry, Superintendent; Kodiak, AK, Emil Norton, Superintendent; Port Bailey, AK, John Jorgensen, Superintendent — Canned & frozen salmon (king, red, coho, pink, chum), halibut. Chignik Lagoon, AK, B.R. Bender, Superintendent; Craig, AK, Carl A. Aspelund, Superintendent; Egegik, AK, Steven M. Skogmo, Superintendent; Moser Bay, AK, Clare Skogmo, Superintendent; Naknek, AK, John S. Bozanich, Superintendent — Fishing fleet maintenance and supply base.
Brand Packed Under:
Royal Club, Pirate, Mohawk, Deep Sea, Zest and private label brands

CONTINENTAL SMOKERS & PROCESSORS LTD.
3065 Butternut
(Port) Coquitlam, B.C.,
Canada V3C 3M7
(604) 464-4111
Telex: 04-353558 FISHCON
Parent Company:
Fisher's Continental Imports & Exports Ltd.
Personnel:
Jan R. Visscher, Pres. & Gen. Mgr.
Plant Locations and Capabilities:
22060 River Rd., Maple Ridge, B.C. Canada V2X 7G2 — Processing salmon, fish, seafoods, shellfish. Cold and hot smoking, curing, caviar, lax. Fresh-frozen. slicing, vacuum packing
Brand Packed Under:
Continental Smokers & Processors Ltd.

DIAMOND E FISHERIES
2711 Locust Avenue
Tacoma, WA 98466
(206) 565-2426
(206) 285-3739
Parent Company:
Egegik Resources Development Inc.
Personnel:
Alf G. Nelson, President; Donald E. Egelus, Sales Mgr.; Curtis Robinson, Purchasing Agent
Plant Locations and Capabilities:
Egegik, AK — Frozen and canned red sockeye

DOMSEA FARMS, INC.
510 Washington Avenue
Bremerton, WA 98310
(206) 479-9941
Telex: 910-449-2827
Parent company:
Campbell Soup Company
Personnel:
T.J. Brewer, Vice President/General Manager
Plant Locations and Capabilities:
Winslow, Bainbridge Island, WA — Fresh/frozen
Brand Packed Under:
Domsea

DRAGNET FISHERIES CO., INC.
P.O. Box 3992
Kenai, AK 99611
(907) 283-4069
Personnel:
R.J. Cherrier, President; Jay G. Cherrier, Sales Mgr. & Purch. Agent
Plant Locations and Capabilities:
Port of Kenai, AK — Fresh/frozen salmon, red, chum, pink, silver, king, herring, frozen round and squeezed
Brand Packed Under:
Dragnet Fisheries

DUTCH HARBOR SEAFOODS, LTD.
15110 N.E. 90th
P.O. Box 94
Redmond, WA 98052
(206) 881-8181
Personnel:
Richard C. White, President; Jon Knapp, Purchasing Agent; Jon Schibel, Production Super., Dutch Harbor; Intersea Fisheries, Ltd., Sales Broker (see Brokers Directory)
Plant Locations and Capabilities:
Dutch Harbor, AK — Processing, frozen king crab and tanner crab and salmon
Brand Packed Under:
Dutch Harbor

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Long Beach Office	213/436-3251		
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Seattle Office	206/628-4343 Telex 32-8718		
Chicago Office	312/325-0155		
Fairbanks Office:	907/452-1022 Telex 090-36651	Wats	800/426-0074
Tacoma Office	206/597-8800		
Houston Office	713/440-8820	Vancouver B.C. Office	604/682-8278

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TOTEM OCEAN TRAILER EXPRESS, INC.

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EGEGIK PACKING COMPANY
1100 West Ewing Street
P.O. Box C-70739
Seattle, WA 98107
(206) 285-6800
Telex: 32-1071 and 32-8721
Parent Company:
Kodiak King Crab, Inc.
Personnel:
William C. Hingston, President; R.E. Silver, Sales Mgr.
Plant Locations and Capabilities:
Egegik, AK — Canned salmon

ELLISON OYSTER CO.
2620 Madrona Beach Road N.W.
Olympia, WA 98502
(206) 866-7551
Personnel:
Bob O. Bower, Gen. Mgr. and President
Plant Locations and Capabilities:
Olympia, WA — Fresh Pacific oysters, opening and in shell
Brand Packed Under:
Ellison Oyster Co.

EXCURSION INLET PACKING CO.
88 East Hamlin Street
P.O. Box C-5030
University Station
Seattle, WA 98105
(206) 323-3200
Telex: 32-8759
Personnel:
John R. Gilbert, President; Robert L. Syre, Superintendent; G.J. Brindle, Asst. Production Supt.
Plant Locations and Capabilities:
Excursion Inlet, AK, Canned & frozen salmon (red, king, coho, pink, chum) & halibut
Brand Packed Under:
Royal Club, Pirate, Mohawk, Deep Sea, Zest, and private labels

FISHKING PROCESSORS, INC.
1324 E. 15th St.
P.O. Box 21385 Market Sta.
Los Angeles, CA 90021
(213) 746-1307
Telex: 67-4561
Personnel:
Masashi Kawaguchi, President
Brand Packed Under:
Mrs. Friday's

GRADER FISH CO.
N. Harbor Drive
P.O. Box 1187
Fort Bragg, CA 95437
(707) 964-2398
Personnel:
W.F. Grader, General Mgr.
Plant Locations and Capabilities:
Fort Bragg — Salmon, bottom fish, crab
Brand Packed Under:
Grader's Best

GUILFORD PACKING CO., INC.
Port Boat Haven
P.O. Box 1219
Port Townsend, WA 98368
(206) 385-1411
Personnel:
R.G. Harms, President; Bill Henderson, Sales Manager
Plant Locations and Capabilities:
Port Townsend, WA — Fresh, frozen salmon, clams, geoduck and clam nectar, fresh and frozen bottomfish
Brand Packed Under:
Royal Chef, Seabreeze

HALIBUT PRODUCERS COOPERATIVE
Squalicum Fill
P.O. Box 1235
Bellingham, WA 98227
(206) 733-0120
Personnel:
Charles Barker, President; Don E. Reinhardt, Manager
Plant Locations and Capabilities:
Sitka, AK — Frozen
Brand Packed Under:
Hy Wave

HARBOR BELL INC.
P.O. Box 396
Bay Center, WA 98527
(206) 875-5725
Personnel:
Wayne E. Lynn, President
Plant Locations and Capabilities:
Bay Center, WA — Dungeness crab, salmon, shrimp, bottomfish, fresh and frozen
Brand Packed Under:
Harbor Bell

HARBOR SEAFOODS CO., INC.
641 Shakes St.
P.O. Box 908
Wrangell, AK 99929
(907) 874-3346
Parent Company:
Alaska Pulp America, Inc.
Personnel:
Raymond W. Haman, President; William S. Gilbert, Purchasing Agent; Douglas G. Holbeck, Vice President and General Mgr.
Plant Locations and Capabilities:
Wrangell, AK — Fresh/frozen/canned salmon, fresh and frozen halibut and herring
Brand Packed Under:
HSC

HEGG & HEGG SMOKED SALMON INC.
801 Marine Drive
Port Angeles, WA 98362
(206) 457-3344
Personnel:
Fred Hegg, General Manager; Bob W. Smith, Sales Manager; Burt Blatter, Purchasing Agent
Plant Locations and Capabilities:
Port Angles, WA — Fresh salmon, dogfish, bottomfish. Custom canning. Canned products, sockeye salmon, smoked salmon, smoked sturgeon, smoked oysters, smoked clams, smoked tuna, albacore tuna. Direct mail order, smoked salmon & various gift boxes & baskets
Brand Packed Under:
Hegg & Hegg

ICICLE SEAFOODS, INC.
4241 21st Avenue West
Seattle, WA 98199
(206) 282-0988
Telex: 32-0938 PFICICLE-SEA
Personnel:
Robert F. Brophy, President; E.A. Rutherford, Sales Mgr.; Ralph Heard, Production Mgr.; Mark Denison, Purchasing Agent
Plant Locations and Capabilities:
Petersburg — All species, frozen and canned; Seward, AK — All species, frozen and canned; Homer, AK — Salmon, halibut, crab, shrimp, frozen only; Barge Arctic Star — Salmon & crab, frozen only; Barge Bering Star — Salmon & crab, frozen only
Brand Packed Under:
Icicle

INDEPENDENT FISHERMEN'S PACKING CO., INC.
100 "O" Avenue
P.O. Box 298
Anacortes, WA 98221
(206) 293-9522
Telex: 15-2980
Personnel:
Gregory Kirsch, President; Steve Pringle, Vice President
Plant Locations and Capabilities:
Anacortes, WA — Fresh and frozen salmon, halibut, herring and bottomfish, herring and salmon caviar
Brand Packed Under:
Shearwater Seafood

INTEROCEAN SEAFOODS CO.
200 S.W. Michigan St.
Seattle, WA 98106
(206) 767-6390
Telex: 328083
Parent Company:
Interocean Seafoods, San Francisco
Personnel:
Albert D. Levy, President; Derryl B. Evans, Sales Manager; Steve Johnson, Purchasing Agent
Plant Locations and Capabilities:
San Francisco/Seattle — Smoked, cured, fresh, frozen, canned salmon, king crab, snow crab, Dungeness crab, scallops, sardines, salmon roe, mackerel, herring, tuna, halibut, squid, bottomfish, shrimp, pet food
Brand Packed Under:
Inseaco, Ice Sea

JESSIE'S ILWACO FISH CO. INC.
P.O. Box 216
Ilwaco, WA 98624
(206) 642-3773
Personnel:
A. Pierre Marchand, Jr., President; Donald R. Eliason, Sales Manager; R. Doug Ross, Purchasing Agent
Plant Locations and Capabilities:
Ilwaco, WA — Fresh/frozen salmon, tuna, crabs, blackcod, shrimp, Pacific snapper, Dover sole, bottomfish
Brand Packed Under:
Seaside

JUNEAU COLD STORAGE CO.
356 South Franklin Street
Juneau, AK 99801
(907) 586-1452
Telex: 099-45332
Parent Company:
Kodiak King Crab, Inc.
Personnel:
Victor W. Horgan, Sr., President; Norman E. Weitkamp, Sales Manager, Fresh-Frozen; R.E. Silver, Sales Manager, Canned; Henry W. Benton, Plant Manager
Plant Locations and Capabilities:
Juneau, AK — Canned and frozen salmon, halibut, blackcod, crab, scallops, fish roe

KEKU CANNING COMPANY
2405 N.W. Market St., Suite 301
P.O. Box 17242
Seattle, WA 98107
(206) 782-7973
Personnel:
Ed Hansen, Manager; Turner Rumfield, Purchasing Agent
Plant Locations and Capabilities:
Kake, AK — Canned salmon, pinks, chums, reds and coho

KIRKLAND CUSTOM CANNERY, INC.
640 8th Avenue
Kirkland, WA 98033
(206) 828-4521
(206) 822-1891
Personnel:
Thad C. Pound, President
Plant Locations and Capabilities:
Kirkland, WA — Canned/smoked salmon, albacore tuna, rainbow trout, sturgeon, blackcod, Pacific oysters
Brand Packed Under:
Thunderbird, Tall Tale

KODIAK ISLAND SEAFOODS, INC.
3600 15th Avenue W., Suite 203
Seattle, WA 98119
(206) 285-3817
Plant Locations and Capabilities:
Larsen Bay, AK — Canned salmon

KODIAK KING CRAB, INC.
P.O. Box 1457
Kodiak, AK 99615
(907) 486-5791
Telex: 090-26514
Parent Company:
Washington Fish & Oyster Co. and Marubeni Corporation
Personnel:
William C. Hingston, President; Norman E. Weitkamp, Sales Mgr., Fresh/Frozen; R.E. Silver, Sales Mgr., Canned
Plant Locations and Capabilities:
Kodiak, AK — Canned/frozen salmon, halibut, shrimp, crab, scallops, fish roe

LONG BEACH SEAFOODS COMPANY
825 West 16th Street
Long Beach, CA 90813
(213) 435-5357
(714) 995-8901
Personnel:
Kenneth B. Stilwell, President; Barry K. Stilwell, Sales Manager; Kent B. Stillwell, Purchasing Agent
Plant Locations and Capabilities:
Long Beach, CA — Frozen halibut, salmon, seabass, mahi mahi, swordfish, etc.
Brand Packed Under:
Fan-Sea

LOS ANGELES SMOKING & CURING CO.
778 Kohler St.
Los Angeles, CA 90021
(213) 622-0724
Personnel:
Louis Vitale, President: D.B. McGee, Sales Mgr.; Louis Quartararo, Purchasing Agent
Plant Locations and Capbilities:
Los Angeles, CA — Smoked salmon; fresh, frozen & canned salmon, blackcod and whitefish, canned pickled herring
Brand Packed Under:
Lascco, Kodikook

MAIN FISH COMPANY, INC.
2301 Alaskan Way (Pier 66)
P.O. Box 3092
Seattle, WA 98114
Telex' 32-8420
Parent Company:
Fishking Processors, Inc.
Personnel:
K. Kihara, President; Ernie Nagal, Sales Manager; Kiyo Ishimitsu, Purchasing Agent
Plant Locations and Capabilities:
Seattle, WA — Processing of bottomfish fillets and salmon. Wholesalers of misc. seafood items (oysters, crab, scallops, shrimp, etc.)
Brand Packed Under:
MAFICO

MARINE RESOURCES CO.
4215 21st Ave. West, Suite 206
Seattle, WA 98199
(206) 285-2701
Telex: 32-8041 MRC SEA
Parent Company:
Bellingham Cold Storage
Personnel:
Walter T. Pereyra, V.P. & General Mgr.; Valery G. Latishev, V.P. & General Mgr.; David W. Galloway, Marketing Manager

McCALLUM SALES LTD.
2117 Commissioner St.
Vancouver, BC.,
Canada V5L 1A7
(604) 253-2611
Telex: 04-5154
Parent Company:
B.C. Packers Ltd.
Personnel:
M.L. Brock, Plant Manager
Plant Locations and Capabilities:
Vancouver, B.C. — Fresh, frozen
Brand Packed Under:
Queen Charlotte

MEREDITH FISH CO.
2601 5th Street
P.O. Box 954
Sacramento, CA 95824
(916) 446-0251
Personnel:
Mike Turnacliff, General Manager; Bob Hettachk, Sales Manager; Bob Irby, Purchasing Agent
Plant Locations and Capbilities:
Bodega Bay, Ft. Bragg, Eureka, CA., Brookings, Or — Fresh salmon, Dungeness crab, crab meat, Pacific coast shrimp meat, crayfish, smelts, blackcod, bottomfish fillets, sliced salmon, halibut, salmon, blackcod steaks
Brand Packed Under:
Meredith

MORPAC, INC.
4215 21st Avenue W.
Seattle, WA 98199
(206) 284-2940
Personnel:
Robert F. Morgan, President
Plant Locations and Capabilities:
Cordova, AK — Frozen and canned salmon, fresh and frozen Dungeness crab, frozen snow crab, frozen herring; Dillingham, AK — Canned and frozen salmon
Brand Packed Under:
Morpac

NELBRO PACKING COMPANY
1135 North 96th Street
Seattle, WA 98125
(206) 527-4155
Parent Company:
B.C. Packers Limited
Personnel:
T.K. Beeston, President; Paul C. Ekman, Purchasing Agent
Plant Locations and Capabilities:
Naknek, AK — Canned and frozen salmon
Brand Packed Under:
Buyers labels

NEPTUNE SEA FOOD CO., INC.
619 Kohler St.
P.O. Box 21391
Los Angeles, CA 90021
(213) 626-5895
Personnel:
Sid Lesser, President; Gene Rodgers, Sales Manager
Plant Locations and Capabilities:
Los Angeles CA — Frozen
Brand Packed Under:
Neptune

J.W. NICHOLLS CO. LTD.
2115 Commissioner Street
Vancouver, B.C.,
Canada V5L 1A6
(604) 253-7828
Personnel:
J.W. Nicholls, President; Bruce Nicholls, Sales Manager
Brand Packed Under:
R.S.V.P.

NIPPON SUISAN (U.S.A.), INC.
3718 Sea-1st National Bank Bldg.
Seattle, WA 98154
(206) 624-7720
Telex: 32-0036
Parent Company:
Nippon Suisan Kaisha, Ltd.
Tokyo, Japan
Personnel:
K. Gomyo, President

NORTHERN PRODUCTS CORPORATION
705 Terminal Sales Bldg.
Seattle, WA 98101
(206) 622-6677
Telex: 32-1073
Personnel:
Robert E. Dignon, President; William A. Dignon, Assistant
Plant Locations and Capabilities:
Thompson Fish Co., Hoonah, AK; Seapro Cold Storage, Seattle, WA; Rainier Ice & C/S, Seattle, WA; Bellingham C/S, Bellingham, WA — Frozen salmon and halibut
Brand Packed Under:
Ideal

NORTHERN SEAFOODS INC.
1577 C St., Suite 212
Anchorage, AK 99501
(907) 279-5222
Telex: 314-25-170
Parent Company:
Hokoku Marine Products Co. Ltd.
Personnel:
Jack McMahon, Manager
Plant Locations and Capabilities:
Anchorage, AK — Salmon, salmon roe, crab, herring, halibut
Brand Packed Under:
Custom packer

OCEAN BEAUTY ALASKA, INC./KETCHIKAN COLD STORAGE
P.O. Box 6658
Ketchikan, AK 99901
(907) 225-3166
Telex: 090-55245
Parent Company:
Ocean Beauty Alaska, Inc.
Personnel:
Victor W. Horgan, Sr., President; Norman E. Weitkamp, Sales Manager
Plant Locations and Capabilities:
Ketchikan, AK — Frozen halibut, salmon, blackcod

OCEAN BEAUTY ALASKA — Uganik Cannery
1100 West Ewing Street
P.O. Box C-70739
Seattle, WA 98107
(206) 285-6800
Telex: 32-1072 and 32-8721
Parent Company:
Ocean Beauty Alaska, Inc.
Personnel:
Ivan L. Fox, President; R.E. Silver, Sales Manager
Plant Locations and Capabilities:
Uganik Bay, AK — Canned salmon

OLYMPIA OYSTER COMPANY
S.E. 1042 Bloomfield Rd.
Shelton, WA 98584
(206) 426-3354
Personnel:
Thomas R. Ingham, President; Richard R. Lewis, Sales Manager
Plant Locations and Capabilities:
Shelton, WA — Fresh and frozen Pacific oysters, fresh clams, fresh Olympia oysters, canned concentrated soup base, smoked oyster fillets
Brand Packed Under:
Puget Sound Oyster Soup Base; Puget Sound Smoked Oyster Fillet

PACIFIC POINT SEAFOODS LTD.
7780 River road
Richmond, B.C.,
Canada V6X 1X7
(604) 270-1653
Telex: 04-355804
Parent Company:
Yamazaki Enterprise Ltd.
Personnel:
Dick H. Yamazaki, Sales Manager
Plant Locations and Capabilities:
7780 River Road, Richmond, B.C., 7820 River Road, Richmond, B.C. — Fresh, frozen, smoked, dried fish, herring, salmon & pollock roe, abalone, clams and other bivalves

PACIFIC SALMON CO., INC.
Pier 66
P.O. Box 21587
Seattle, WA 98111
(206) 622-9368
Telex: 32-0248
Personnel:
John A. McCallum, President; John W. McCallum, V.P.; Seb Jersaimi, Sales Manager

PACIFIC SEA-PRO, INC.
1224 46th East
Tacoma, WA 98424
(206) 922-0411
TWX: 910-441-2664
PACSEAPRO TAC
Personnel:
Hidy Otsuka, President; Will Hall, Vice President; David Peterson, Vice President
Plant Locations and Capabilities:
Tacoma, WA — Fresh/frozen salmon, crab, bottomfish, glams, geoduck; Anchorage, AK — Fresh, frozen, salted salmon, halibut, crab, shrimp
Brand Packed Under:
Pacificia & Sea-Pro

PEDERSON POINT
1100 West Ewing Street
P.O. Box C-70739
Seattle, WA 98107
(206) 285-6800
Telex: 32-1071 and 32-8721
Parent Company:
Kodiak King Crab, Inc.
Personnel:
William C. Hingston, President; Norman E. Weitkamp, Sales Mgr., Fresh/Frozen; R.E. Silver, Sales Mgr., Canned
Plant Locations and Capabilities:
Pederson Point, AK — Frozen salmon

PELICAN SALES COMPANY
653 N.E. Northlake Way
P.O. Box 5538
Seattle, WA 98105
(206) 632-9000
Telex: 32-8911
Parent Company:
Pelican Cold Storage Company
Personnel:
James Ferguson, President; Tom Gordon, Sales Manager
Plant Locations and Capabilities:
Pelican, AK — Frozen salmon, halibut, king crab, Dungeness crab, snow crab, blackcod; Port Alexander, AK — Frozen salmon, halibut
Brand Packed Under:
Sitka, Northern Queen

PETER PAN SEAFOODS, INC.
1220 Dexter Horton Bldg.
Seattle, WA 98104
(206) 624-4344
Telex: 328422
Personnel:
Jay S. Gage, President; Thomas L. Steinbach, Sales Manager; Jack L. Lind, Purchasing Agent
Plant Locations and Capabilities:
Bellingham, WA — Fresh, frozen canned salmon; Dillingham, AK — Fresh, frozen canned salmon; False Pass, AK — Canned salmon; Ketchikan, AK — Salmon fish buying station; King Cove, AK — Fresh, frozen, canned salmon, frozen crab; Kodiak, AK — Salmon, fish buying station; Nornek, AK — Salmon, fish buying station; Port Moller, AK — Fresh, frozen salmon; Sand Point, AK — Salmon, fish buying station; Warren, AK — Salmon, fish buying station
Brand Packed Under:
Peter Pan, Demings, Gillnetter's Best, Double Q, Seakist, Humpty Dumpty, Unica, Showboat

POLAR ICE SEAFOODS
1301 N. Northlake Way
Seattle, WA 98103
(206) 632-2228
Parent Company:
Port Lynch Inc.
Personnel:
M.C. Lynch, Jr., President; M.J. Hartwig, Sales Manager
Plant Locations and Capabilities:
Floating — Frozen salmon, herring, shrimp

QUALITY FISH COMPANY LTD.
1350 East Kent St.
Vancouver, B.C.,
Canada V5X 2Y2
(604) 324-2622
Telex: 04-55298
Personnel:
Byron Wright, President; Peter Browne, General Manager
Plant Locations and Capabilities:
Vancouver, B.C. — Frozen, fresh, canned salmon, fresh, frozen, fillets groundfish, sujiko/kazunoko, herring, halibut

RED SALMON COMPANY
88 East Hamlin Street
P.O. Box C-5030
University Station
Seattle, WA 98105
(206) 323-3200
Telex: 32-8759
Personnel:
H.A. Brindle, General Manager; Patrick J. Douglas, Sales Manager
Plant Locations and Capabilities:
Naknek, AK, Canned & frozen salmon (red, king, coho, pink, chum) & halibut
Brand Packed Under:
Royal Club, Pirate, Mohawk, Deep Sea, Zest and private labels

ST. ELIAS OCEAN PRODUCTS, INC.
P.O. Box 548
Cordova, AK 99574
(907) 424-7171
Telex' 090-26589
Parent Company:
Washington Fish & Oyster Company
Personnel:
James A. Poor, President; Norman E. Weitkamp. Sales Mgr., Fresh/Frozen; R.E. Silver, Sales Mgr., Canned
Plant Locations and Capabilities:
Cordova, AK — Canned and frozen salmon, halibut, blackcod, crab, scallops, fish roe

SEA-ALASKA PRODUCTS, INC.
1818 Westlake No., Suite 310
Seattle, WA 98109
(206) 284-2051
Telex: 32-0240
Personnel:
Robert E. Resoff, President; William M. O'Connor, Sales Manager; Wayne Axelson, Purchasing Agent
Plant Locations and Capabilities:
Dutch Harbor, AK — Frozen king and snow crab, herring and salmon
Brand Packed Under:
Alaska Seas, Stormy Seas

SEA K FISH CO. INC.
P.O. Box 96
Blaine, WA 98230
(206) 332-5121
Personnel:
Martin Kuljis, President; George Costello, Vice President; William Ewing, Purchasing Agent
Plant Locations and Capabilities:
Blaine, WA — Fresh, frozen bottomfish, salmon, Dungeness crab, whole, cooked and meat; roe herring; Sausalito, CA — Roe herring
Brand Packed Under:
Sea K

SEA-NIK FOODS
P.O. Box 73
Ninilchik, AK 99639
(907) 567-3980
Personnel:
James A. Garroutte, President
Plant Locations and Capabilities:
Ninilchik, AK — Fresh, frozen, smoked and canned salmon
Brand Packed Under:
Sea-Nik Foods

SEA PRODUCTS CO.
140 Olivier St.
P.O. Box 1388
Monterey, CA 93940
(408) 375-5121
Personnel:
K. Nobusada, Ken Sato, Warren Nobusada, Owners
Plant Locations and Capabilities:
Moss Landing, CA — Fresh albacore, salmon, frozen squid, herring; Crescent City, CA — Fresh & frozen crab, fresh rock cod, sole, blackcod, frozen shrimp meat
Brand Packed Under:
Sea Diamond, Sea Pearl, Crescent City

SEA RUN SEAFOODS LTD.
1818 Westlake Ave. No., 422
Seattle, WA 98109
(206) 282-7800
Telex: 32-8006
Personnel:
George Palmerton, President; Cecil Beauchamp, Sales Manager; Ray Taylor, Purchasing Agent
Plant Locations and Capabilities:
Seattle, WA — Fresh salmon; Homer, AK — Fresh & frozen salmon, crab, shrimp
Brand Packed Under:
Sea Run Seafoods, Sea Princess

SEA SNACK FOODS, INC.
914 E. 11th St.
Los Angeles, CA 90021
(213) 622-2204
TWX: 910-321-5764
Personnel:
Arthur Pearlstein, President; Fred W. Ockrim, Vice President; Jeffrey L. Kahn, Vice President
Plant Locations and Capabilities:
914 E. 11th St., L.A. — Cooked IQF shrimp; 922 E. 11th St., L.A. — Shrimp & crab cocktail in jars, seafood cocktail sauce
Brand Packed Under:
Sea Snack, Restaurant Row

SEAFARMS PACIFIC
Box 1256
Port Angeles, WA 98362
(206) 452-4705
Personnel:
Gary Engman, President; Bayard Carlson, Sales Manager
Plant Locations and Capabilities:
Port Angeles, WA — Fresh & frozen salmon, salmon roe, bottomfish; Brinnon, WA — Oysters, clams
Brand Packed Under:
Sea Harvest, Quilcene Oysters

SEAFOOD PACKERS, INC.
5728 Airport Way S.
P.O. Box 24746
Seatle, WA 98124
(206) 767-6320
Telex: 321263
Parent Company:
Seattle Seafoods, Inc.
Personnel:
Carl Jensen, President; Gary Thor, Sales Manager
Plant Locations and Capabilities:
Seattle, WA — Custom processing of crab and fish

SEAKLAWOCK
1100 West Ewing Street
P.O. Box C-70739
Seattle, WA 98107
(206) 285-6800
Telex: 32-1072 and 32-8721
Joint Venturers:
Klawock-Heenya Corporation and St. Elias Ocean Products, Inc.
Personnel:
R.E. Silver, Sales Manager, Canned Product
Plant Locations and Capabilities:
Klawock, AK — Canned salmon

SEAPRO
210 S.W. Michigan - Terminal 115
P.O. Box 24978
Seattle, WA 98124
(206) 767-7350
Telex: 32-0255
Parent Company:
City Ice & Cold Storage
Personnel:
William F. Manning, General Manager; Robert B. Wallace, Asst. General Manager; Jim Goodsir, Plant Manager
Plant Locations & Capabilities:
Seattle, WA and Anchorage, AK - Fresh and frozen custom processing

SEATTLE SEAFOODS, INC.
Pier 24
P.O. Box 24746
Seattle, WA 98124
(206) 682-2150
Telex: 321263
Parent Company:
Ocean Beauty Seafoods, Inc.
Personnel:
Carl Jensen, President; Mike Girton, Sales Manager
Plant Locations and Capabilities:
Pier 24 — Halibut, salmon, king crab, snow crab, shrimp, scallops. Also custom processing
Brand Packed Under:
Ocean Beauty, Carnation

SEAWEST INDUSTRIES, INC.
100 2nd Avenue
Edmonds, WA 98020
(206) 771-7171
Telex: 152-623
Personnel:
Darryl K. Pedersen, President; Robert Morgan, Sales Manager; Don Gerber, Purchasing Agent
Plant Locations and Capabilities:
Bellingham, WA — Salmon, king crab, tanner crab, Dungeness crab, bottomfish, oysters, herring, halibut, fresh and frozen; Akutan, AK — King crab and tanner crab, frozen
Brand Packed Under:
Seawest

SEWARD FISH CO., INC.
30 Hotaling Place, Suite 306
San Francisco, CA 94111
(415) 956-4900
Telex: 340950 Seward; 278116 Sfish (RCA)
Personnel:
Tim C. Seward, President; Barbara A. Machtinger, Secretary/Treasurer

SHAFER-HAGGART LTD.
750 W. Pender St., No. 600
Vancouver, B.C.,
Canada V6C 2V5
(604) 669-5512
Telex: 0453299
Seattle Office:
4660 E. Marginal South
Seattle, WA 98134
Personnel:
Bill Brent, Mgr. Frozen Fish Dept.; Don Shafer, Mgr. Canned Salmon Dept.; Ron Hall, Seattle Office
Plant Locations and Capabilities:
Frozen salmon, halibut, shrimp, crab; canned salmon, shrimp
Brand Packed Under:
Four Star, Admiral

SITKA SOUND SEAFOODS, INC.
P.O. Box 830
Sitka, AK 99835
(907) 747-6662
Telex: 090-45-391
Personnel:
Thomas E. Thompson, President; John R. Swanson, Sales Manager
Plant Locations and Capabilities:
Sitka, AK — Fresh and frozen troll/seine salmon, sable fish, halibut, abalone, red rockfish, roe and bait herring

SOUTH PACIFIC CANNING CO.
806 W. 14th Street (90803)
P.O. Box 1665 (90801)
Long Beach, CA
(213) 437-1271
Personnel:
Donald M. Gallagher, Sales Manager
Plant Locations and Capabilities:
Terminal Island, Ca
Brand Packed Under:
Royal Pacific, Private Label

SPORTSMENS CANNERY
P.O. Box 11
Winchester Bay, OR 97467
(503) 271-3293
Personnel:
Thomas E. Hedgepeth, President
Plant Locations and Capabilities:
Canned salmon, albacore tuna, smoked salmon
Brand Packed Under:
Genesun

STERLING SEAFOODS, INC.
Box 1847
Sitka, AK 99835
(907) 747-8411
Personnel:
Bob Wyman, President; Ed Wyman, General Manager
Plant Locations and Capabilities:
M/V Alaska Star — Frozen salmon, frozen herring

SUISAN INTERNATIONAL INC.
221 Warehouse Ave.
Anchorage, AK 99501
(907) 274-3022
Plant Locations and Capabilities:
Anchorage, AK — Fresh/frozen salmon

SWINOMISH INDIAN FISH CO.
P.O. Box 714
La Conner, WA 98257
(206) 466-3179
(206) 466-3170
Personnel:
Donald J. Overmiller, General Manager
Plant Locations and Capabilities:
La Conner, WA — Fresh, frozen, smoked salmon, Dungeness crab
Brand Packed Under:
Swinomish Indian Fish Co.

J.J. THEODORE CO. INC.
30th Floor Smith Tower
Seattle, WA 98104
(206) 682-3511
Telex: 329664
Personnel:
John J. Theodore, President
Plant Locations and Capabilities:
Friday Harbor, WA — Fresh, frozen and canned salmon
Brand Packed Under:
Friday Harbor

TONQUIN ENTERPRISES LTD.
2145 Commissioner St.
Vancouver, B.C.,
Canada V5L 1A4
(604) 255-3108
Personnel:
Alexander Andrews, Plant Manager
Plant Locations and Capabilities:
Vancouver — Salmon, roe herring, food herring; Port Alberni — Salmon, roe herring; Tofino — Salmon

TRANS PACIFIC SEAFOODS, INC.
3419 - 16th W.
Seattle, WA 98119
(206) 284-4563
Telex: 32-8052
Parent Company:
Trans Pacific International Industries, Inc.
Personnel:
John K. Sjong, President; Mike Nordby, General Manager; Jim Long, Purchasing Agent
Plant Locations and Capabilities:
M/V Deep Sea — King crab, tanner crab, frozen; M/V Pavlof — King crab, cod, halibut, blackcod, salmon, frozen; M/V Arctic Trawler — Cod fillets, frozen; M/V Pengwin — Salmon, frozen
Brand Packed Under:
Arctic Fresh

TRINITY SEAFOODS INC.
129 Viewcrest
Port Angeles, WA 98362
(206) 452-3109
Personnel:
Kieth Loan, President
Plant Locations and Cababilities:
St. Mary's, AK — Fresh king, chum and coho salmon; Kotzebue, AK — Fresh chum salmon

UNIVERSAL SEAFOODS, LTD.
15110 N.E. 90th Street
P.O. Box 94
Redmond, WA 98052
(206) 881-8181
Telex: 32-8066
Personnel:
J. Richard Pace, President; Broker: Intersea Fisheries; Jon M. Knapp, Purchasing Agent
Plant Locations and Capabilities:
Cold Storage — 15110 N.E. 90th St., Redmond, WA 98052; Dutch Harbor, AK — Processing, frozen king crab and tanner crab
Brand Packed Under:
Unisea, Dutch Harbor, Aleutian

URSIN SEAFOODS, INC.
1414 Dexter Ave. N. Suite 200
Seattle, WA 98109
511 Shelikof Ave.
P.O. Box 492
Kodiak, AK 99615
(206) 284-8720, Seattle
(907) 486-5724, Kodiak Plant
Telex: 32-9500
Personnel:
Norman Ursin, Jr., General Manager; Jeff Johnson, Sales Manager; Michael Samsel, Purchasing Agent
Plant Locations and Capabilities:
Kodiak, AK - Frozen king and tanner crab, herring and salmon
Brand Packed Under:
Ursin Seafoods

VALDEZ FISHERIES
P.O. Box 1370
Valdez, AK 99686
(907) 835-4764
Personnel:
Bob Mathews, President; Eleanor Mathews, Plant Manager
Plant Locations and Capabilities:
Fresh & frozen red salmon, filleted and salted red salmon in kelp buckets, large Alaskan spot shrimp, frozen
Brand Packed Under:
Eshamy Gourmet Seafoods

VAN CAMP SEA FOOD COMPANY
11555 Sorrento Valley Road
San Diego, CA 92121
(714) 452-1900
Telex: 697995
Parent Company:
Ralston Purina Company
Personnel:
Richard C. Atchison, President; Patrick W. Rose, Sales Manager; Robert O'Brien, Purchasing Agent
Plant Locations and Capabilities:
San Diego, American Samoa, Palau, Puerto Rico, Ecuador, Ghana. Yellowfin, skipjack, bluefin, albacore, canned
Brand Packed Under:
Chicken of the Sea

WARDS COVE PACKING CO., INC.
88 E. Hamlin Street
Seattle, WA 98102
(206) 323-3200
Personnel:
Alec W. Brindle, President-Plant Manager; Patrick J. Douglas, Sales Manager; G.C. Steele, Accountant
Plant Locations and Capabilities:
Ketchikan, AK — Canning and freezing salmon, halibut
Brand Packed Under:
Royal Club, Pirate, Mohawk, Deep Sea, Zest

WARRENTON DEEP SEA INC.
Box 486
Warrenton, OR 97146
(503) 861-1233
Personnel:
A.G. "Bud" Charlton, President
Plant Locations and Capabilities:
Salmon, tuna and crab
Brand Packed Under:
Stormy

WASHINGTON CRAB PRODUCERS, INC.
109 Dock Street
Westport, WA 98595
(206) 268-1611
Personnel:
Virgil Gordon, President; Leif M. Andersen, Gen. Mgr.; Sam Henley, Assistant Manager
Plant Locations and Capabilities:
Westport, WA — Shrimp and crab, fresh, frozen and canned; fish filleting and freezing; cold storage facilities
Brand Packed Under:
Searock, Sea Haven

WASHINGTON FISH & OYSTER COMPANY
1100 West Ewing Street
P.O. Box C-70739
Seattle, WA 98107
(206) 285-6800
Telex: 32-1071 and 32-8721
Parent Company:
Ocean Beauty Seafoods, Inc.
Personnel:
John G. Peterson, President; Norman E. Weitkamp, Sales Manager, Fresh-Frozen; R.E. Silver, Sales Manager, Canned
Plant Locations and Capabilities:
Seattle, WA — Fresh, frozen, cured and canned salmon, halibut, blackcod, shrimp, crab, tuna and bottomfish
Brand Packed Under:
Kodiak, Ocean Beauty, Silver Beauty, Sea Beauty, Bay Beauty, Sound Beauty, McGovern's Best, Sea North, Dixie Belle, Columbia Crest, Pillar Rock, Icy Point, Pink Beauty, Searchlight, Golden Mist, Washington, Perfection

WHITNEY-FIDALGO SEAFOODS, INC.
2360 West Commodore Way
Seattle, WA 98199
(206) 285-0300
Personnel:
Denton Sherry, President; Vance F. Sutter, V.P., Production; Larry M. Kaner, V.P.
Plant Locations and Capabilities:
Anacortes, WA — Cannery; Anchorage — Cannery and cold storage; Kodiak — Cannery; Uyak — Cannery; Ketchikan — Cannery; Petersburg — Cannery; Cordova, Naknek Cannery; Dutch Harbor — Cold storage and processor; Homer; Port Graham

YANKEE FISH CO., INC.
Squalicum Waterway
P.O. Box 1184
Bellingham, WA 98227
(206) 733-1657
Personnel:
Robert P. Glenovich, President; Barbara Glenovich, Sales Manager
Plant Locations and Capabilities:
Frozen salmon, bait herring and roe herring

Directory of Brokers

ACLI INTERNATIONAL SEAFOOD CO.
717 Westchester Ave.
White Plains, NY 10604
WU: 64-6657

ALASKA COD COMPANY, INC.
Fishermen's Terminal,
Bldg. C-10
Seattle, WA 98119
(206) 282-7097
Telex: 32-1033
Species Handled:
Frozen: Salmon, blackcod, king crab, tanner crab

DENNIS J. ALBA & COMPANY
418 S. Central Avenue
Los Angeles, CA 90013
(213) 680-0720
Species Handled:
Frozen: Fish & seafood

ALBA SEAFOOD INC.
233 Water Street
New York, NY 10038
(212) 349-5730
Telex: 428263
Species Handled:
Frozen: Shrimp, crab, halibut, salmon

ALL-ALASKA SEAFOOD SALES
P.O. Box 3175, Dwtn. Sta.
Anchorage, AK 99510
(907) 333-7011
Species Handled:
Canned: Salmon; Frozen: Salmon, king crab, tanner crab, Dungeness crab, halibut

AMENDE AND SCHULTZ, INC.
1017 Fremont Ave.
South Pasadena, CA 91030
(213) 682-3806
Telex: 675-332
Species Handled:
Frozen: Salmon, crab, lobster tails, shrimp (green, headless), shrimp (IQF P and D), frog legs, halibut, mahi mahi, turbot

AMERICAN INTERNATIONAL TRADING, INC.
P.O. Box 97
Clackamas, OR 97015
(503) 657-3070
Telex: 910-454-8409
Species Handled:
Frozen: Shrimp (Ecuadorian, Oregon, Alaskan, cooked Malaysian, & Norwegian), crab (king sections & meat, snow crab, sections & meat, Dungeness, whole cooked and meat), salmon (kings, coho, pinks, chums), bottomfish (all North Pacific species), halibut (dressed), lobster tails (Australian)

AQUAMAR BROKERAGE CO.
753 S. Atlantic Blvd.
Monterey Park, CA 91754
(213) 289-6311
Telex: 69-1688
Species Handled:
Frozen: Halibut, salmon, king crab meat & sections, Dungeness crab & crab meat, groundfish fillets, Australian lobster tails, shrimp

ATLAS-HORN FOOD-SERVICE INC.
6255 Sunset Blvd., 21st Floor
Hollywood, CA 90028
(213) 856-0055
Species Handled:
Frozen: Cod & whiting blocks, groundfish fillets, breaded shrimp, clams, cod portions, whiting portions

BISWA OVERSEAS CO. INC.
Airport International Plaza
Newark, NJ 07114
(201) 242-0760
Telex: 710-9954433 HINDNWK
Species Handled:
Canned: Shrimp; Frozen: PUD shrimps, IQF shrimp, lobster tails, froglegs

BOUKOURIS & CO. LTD.
P.O. Box 52
Santa Barbara, CA 93102
(805) 963-3722
Telex: 910-334-4900
Species Handled:
Frozen: Lobster tails, prawns, shrimp, scallops, mahi mahi, snapper, sole, halibut, salmon, etc.

BROMAR FOOD SERVICE SALES
9420 Telstar Ave., Suite 200
El Monte, CA 91731
(213) 442-9310
Species Handled:
Canned: Tuna, sardines; Frozen: Cod, haddock, breaded portions

C. BRONNER CO.
Box B
Cicero, NY 13039
(315) 699-5993
Species Handled:
Frozen: Halibut, salmon, king crab legs & claws, king crab meat

R.F. BROWN SEA FOOD CO., INC.
P.O. Box 14026
Lansing, MI 48901
(517) 487-5428 or
(313) 553-7660
Telex: 229-423
Species Handled:
Frozen: Salmon, halibut

BUDRUSS INC.
P.O. Box 2093
New Hyde Park, NY 11040
(516) 627-7228 or
(516) 354-0643
Telex: 143190 or 146366
Species Handled:
Frozen: Shrimp, lobster tails, scallops, crab, red snapper, whiting, salmon

BUMBLE BEE SEAFOODS/ CASTLE & COOKE INC.
P.O. Box 3928
San Francisco, CA 94119
(415) 986-3000
Telex: 340295
P.O. Box 17705
Seattle, Wa 93107
Species Handled:
Canned: Salmon, crab, shrimp, oysters, tuna; Frozen: Salmon, crab, shrimp, bottomfish

CALKINS & BURKE LTD.
1477 W. Pender St., Suite 500
Vancouver, B.C.,
Canada V6G 2S6
(604) 669-3741
Telex: 04508829 KINCAL
Species Handled:
Canned: Salmon, shrimp, crab, tuna, oysters, clams, lobster; Frozen: Salmon, halibut, shrimp, crab, tuna, clams, oysters, lobster, herring, squid

CLAHAN PACIFIC, INC.
50 California St., Suite 2200
San Francisco, CA 94111
(415) 398-6444
TWX 910-372-6145
Cable: Clahan Pac
Species Handled:
Frozen: Shrimp (raw & cooked), lobster tails & whole lobsters, scallops, turbot, whiting, salmon, mahi mahi, calamari steaks, halibut swordfish, cod, crab meat (king, snow & Dungeness), clams, abalone, squid

J.F. CLARKE CORPORATION
3000 Marcus Avenue,
Suite 1 E 12
Lake Success, NY 11042
(516) 328-8333 or
(212) 895-2296
Telex: 960-246
Species Handled:
Frozen: Alaska Seas brand — king crab meat, king crab merus meat, king crab sections, king crab arms, snow crab clusters, snow crab sections

ROBERT O. COLE (WASH.), INC.
300 120th Avenue, N.E.
Bellevue, WA 98005
(206) 454-0140
Telex: 32-0046
Species Handled:
Frozen: Cooked & peeled shrimp meat, fresh/frozen Dungeness crab meat, fresh/frozen salmon, Monterey squid

CONFRIO/COMPANHIA NACIONAL DE FRIGORIFICOS
25 Sylvan Road South, Ent. H.
Westport, CT 06880
(203) 227-4188
Telex: 96 5836 CONFRIO WEPT
Species Handled:
Canned: Sardines; Frozen: Shrimp, lobster tails, scallops, snapper, catfish

VINCENT, WADE & HINES, INC.

FULL SERVICE BROKERS
of
ALL SEAFOOD PRODUCTS

SPECIALIZING IN

Fresh, Fresh Frozen & Canned Salmon
Dungeness, King & Snow Crab
Lobster Tails ★ Shrimp
Salmon & Herring Roe

REPRESENTING

• PETER PAN SEAFOODS • PETER PAN BRANDS •
• CRAIG MOSTYN & CO. PTY. LTD. • BROLOS BRAND •
• J.J. THEODORE & CO. • FRIDAY HARBOR BRAND •
• FLYING GOOSE • DAN-MAID BRANDS •
• TRADERS BEST BRAND •

SEATTLE OFFICE

1910 Fairview Ave. E.
Suite 400
Seattle, WA 98102
Phone 206/323-7400
Telex 32-8764
Cable BICO

LOS ANGELES OFFICE

230 S. Garfield Avenue
Suite 101
Monterey Park, CA 91754
Phone 213/288-8441
Telex 67-3388

Circle number 79 on the Reader Inquiry Card

CONSOLIDATED FACTORS
140 Olivier Street
Monterey, CA 93940
(408) 375-5121
Species Handled:
Canned: Shrimp meat, crab meat; Frozen: Squid, herring, shrimp, crab, scallops, halibut, swordfish, salmon, albacore, tuna

CONSOLIDATED FISH CO., INC.
Box 3135
Bellingham, WA 98227
(206) 734-9906
Telex: 152669 CONFISH BLH
Species Handled:
Frozen: Salmon, bait herring, roe herring

D & R FOOD BROKERS INC.
101 So. 21st Street
Kenilworth, NJ 07033
(201) 276-1564
Species Handled:
Canned: Salmon, sardines, fish steaks, shrimp, oysters; Frozen: Salmon, K/C products, shrimp, oysters, salted fish, mussels, lobster, fillets

DECATUR SEAFOODS, INC.
1515 Dexter Avenue No.
Seattle, WA 98109
(206) 285-9110
Telex: 32 8436
Species Handled:
Canned: Shrimp, salmon; Frozen: Salmon, halibut, king crab, snow crab, Dungeness crab, Alaska shrimp, Oregon shrimp, herring

DEEP SEA SHRIMP IMPORTING CO. INC.
99 East Magnolia Blvd.
Burbank, CA 91502
(213) 849-6679
Telex: 181397
Species Handled:
Frozen: Shrimp

DEHN & CO., INC.
P.O. Box 25684
Seattle, WA 98125
(206) 363-2911
Telex: 328887 Denco
Species Handled:
Frozen: All species

RICHARD W. DEIBERT & ASSOC. INC.
P.O. Box 507
Orinda, CA 94563
(415) 254-1040
Species Handled:
Frozen: Shrimp, crab (king, snow, Dungeness), salmon, halibut, abalone, sole

DEMERICO CORPORATION
P.O. Box 3691
Brownsville, TX 78520
(512) 546-5525
Telex: 766-674
Species Handled:
Frozen: Shrimp, lobster tails, scallops, freshwater catfish, king crab legs

MICHAEL DOYLE & ASSOCIATES LTD.
402 West Pender Street
Vancouver, B.C.,
Canada V6B 1T7
(604) 688-7294, Vancouver
(206) 624-9244, Seattle
Telex: 04-507618
Species Handled:
Canned: All fish; Frozen: All fish

E.A. DURELL & CO., INC.
576 Sacramento St.
San Francisco, CA 94111
(415) 398-4141
Species Handled:
Canned: Salmon, tuna

EADON-MERCHANT & ASSOC., INC.
9400 W. Foster Ave.
Chicago, IL 60656
(312) 992-3883
Telex: 25-3601
Species Handled:
Frozen: King crab products, snow crab products

EMERALD BAY, INC.
368 Hillside Avenue
Needham Heights, MA 02194
(617) 444-9222
Telex: 710-325-0849
Species Handled:
Canned: Lobster meat, lobster paste, lobster cocktail, crab meat, seafood chowder, clam chowder, mackerel fillets (smoked), herring fillets (smoked); Frozen: Shrimp, lobster tails, scallops, fillets, lobster meat, snow crab meat and in shell products, king crab meat and in shell products, smelts, langostinos, oysters

EURO-PACIFIC INTERNATIONAL CORP.
1200 Westlake Ave. No.
Seattle WA 98109
(206) 284-3651
Telex: 32-8737
Species Handled:
Frozen: Salmon, king crab, snow crab, Dungeness crab, shrimp meat, halibut

FARWEST FOOD ASSOCIATES, INC.
1155 S.W. Chestnut Dr.
Portland, OR 97219
(503) 245-2224
Species Handled:
Frozen: Cod, flounder, haddock, halibut, sole, shrimp, scallops

FAVCO, INC.
P.O. Box 2323
Anchorage, AK 99510
(907) 278-1525
Telex: 25436
Species Handled:
Frozen: Salmon, halibut, bottomfish, shrimp, lobster, crab, scallops

G.E. FEDERSPIEL CO.
3625 1st Avenue So.
Seattle, WA 98134
(206) 623-6906
Species Handled:
Canned: Tuna; Frozen: Salmon, halibut, Dungeness crab, king crab, snow crab, shrimp meat, oysters, bottom fish

EDWARD FEIGON ENTERPRISES
Rep: Central Seaway Co.
P.O. Box 686
Aptos, CA 95003
(408) 688-1399
Telex: 352146
Species Handled:
Frozen: Seafood of all types

FISHERMENS FEDERATION
2120 So. Canal
Chicago, IL 60616
(312) 226-4440
Species Handled:
Frozen: Halibut, turbot, salmon, whiting, sole, cod, snapper, rock cod, Dungeness crab, pollock

FOOD SERVICE SPECIALISTS, INC.
6100 S.W. Lombard Ave.
Beaverton, OR 97005
(503) 641-7062
Species Handled:
Frozen: King crab, snow crab, Dungeness crab, shrimp meat, salmon, red snapper, rock cod

FOODS WEST ASSOCIATES
2706 S. Grand Ave.
Los Angeles, CA 90007
(213) 742-6601
Telex: 67-3515
Species Handled:
Frozen: All west coast species, all salmon species; Fresh: All varieties from west coast and east coast, also fresh tuna from Hawaii

Sea-Alaska
Products Incorporated

PRODUCERS AND DISTRIBUTORS
OF FROZEN ALASKAN
KING AND SNOW CRAB
UNDER THE "ALASKA SEAS"
AND THE "STORMY SEAS" BRANDS

Sea Alaska Products, Inc.
Suite 310
1818 Westlake N.
Seattle, Wash. 98109

(206) 284-2051 **Telex: 32-0240**
Sea-Alaska Sea

Plant Location: Dutch Harbor

Circle number 68 on the Reader Inquiry Card

L.H. FROHMAN & SONS, INC.
510 N. Dearborn St.
Chicago, IL 60610
(312) 836-7200
Telex: 25-4114 LOUDART
Species Handled:
Canned: Salmon, tuna, crab, mackerel, pet food: Frozen: Salmon, halibut, bottomfish fillets, snow crab, king crab, shrimp, blackcod

FROZEN OCEANIC PRODUCTS
P.O. Box 3456
San Diego, CA 92103
(714) 239-1521
Species Handled:
Canned: Abalone, sardines, squid, mackerel; Frozen: Abalone, shrimp, squid (gran calamary), lobster, fish fillets

C.S. FULFORD.
3677 Barry Ave.
Los Angeles, CA 90066
(213) 391-0059 or
(213) 398-4614
Species Handled:
Frozen: Trout, oysters, shrimp

FUSHIOKA AND COMPANY LTD.
Juraku Bldg., 9-23,
Togano-Cho, Kita-Ku
Osaka, Japan
(06) 313-3041/4
Telex: J63654 FUSHIOKA
Species Handled:
Frozen: Beef offals, pork, mutton, king and queen crab claws, lobster, shrimp

GIBBS-McCORMICK INC.
P.O. Box 940
Burlingame, CA 94010
(415) 692-5533
Species Handled:
Canned: Tuna, shrimp, sardines, oysters, salmon, anchovies, clams; Frozen: Salmon, clams, crab

GLENN SALES COMPANY
2964 Peachtree Rd., N.W.
Atlanta, GA 30305
(404) 261-0055
Species Handled:
Frozen: King crab legs, king crab meat, merus meat, snow crab products, Dungeness crab, Pacific shrimp

F.A. GOSSE CO.
600 1st Avenue
Pioneer Bldg., Suite 436
Seattle, WA 98104
(206) 622-0475
Telex: 32-8715 SEA
Species Handled:
Canned: Salmon, tuna, crab, shrimp; Frozen: Salmon, crab, herring, shrimp

GREAT PACIFIC SEAFOODS INC.
3623 - 6th Avenue S
Seattle, WA 98134
(206) 623-0052
Telex: 32-8054 CRAIGMARK SEA
Species Handled:
Frozen: Salmon, halibut, crab

HANDY TRADING CO. OF AMERICA
P.O. Box 5085
Sherman Oaks, CA 91413
(213) 501-6114
Telex: 691132
Species Handled:
Canned: Abalone; Frozen: Abalone, salmon, blackcod, crab, king, Dungeness, other

HOLLY SEA FOOD
410 Towne
Los Angeles, CA 90013
(213) 625-2513
Species Handled:
Fresh & frozen seafoods

M.K. HOROWITZ COMPANY
1649 Tullie Circle, N.E.,
Suite 105
Atlanta, GA 30329
(404) 321-0777
Telex: 54-2695
Species Handled:
Frozen: King crab, snow crab, salmon

IMPERIAL MARKETING, INC.
2390 El Camino
Palo Alto, CA 94306
(415) 857-0832
Telex: 334451
Species Handled:
Canned: Salmon; Frozen: All fish and shellfish

INDIANA FOOD BROKERAGE CO., INC.
P.O. Box 1004
Indianapolis, IN 46206
(317) 925-2336
Species Handled:
Canned: Tuna; Frozen: Alaskan king crab legs and claws, Alaskan king crab meat, salmon

INTERNATIONAL PACIFIC SEAFOODS, INC.
616 Stanford Ave.
Los Angeles, CA 90021
(213) 628-1702
Telex: 673-317
Species Handled:
Frozen: Shellfish, finfish

INTEROCEAN SEAFOODS COMPANY
465 California St., Room 332
San Francisco, CA 94104
(415) 421-5722
Telex: RCA 278429;
WU 340874
200 S.W. Michigan, Suite 100A,
Seattle, WA 98106
Species Handled:
Canned: Tuna, mackerel, shrimp, pilchards, sardines; Frozen: Alaska Dungeness crab, Alaska/Oregon cooked shrimp, bottomfish, salmon, snow crab, scallops, turbot, oysters

INTER-OCEANIC FACTORS, INC.
110 West Ocean Blvd.
Long Beach, CA 90802
(213) 435-7497 or
(213) 435-7498
Telex: 656-353 (INFACT LGB)
Species Handled:
Canned: Salmon, tuna; Frozen: Salmon, tuna, turbot, squid, herring

INTERSEA FISHERIES, LTD.
1345 Ave. of the Americas
New York, NY 10105
(212) 586-7676
Telex: 12-7475 UNIFISH NYK
Seattle Office:
4225 23rd Ave. West
Seattle, WA. 98199
(206) 285-5630
Telex: 32-1256 (UNISEA SEA)
Species Handled:
Canned: Salmon; Frozen: Salmon, king crab, snow crab, shrimp, sturgeon, sablefish, herring

ISLAND SUN COMPANY, INC.
100 Bush St.
San Francisco, CA 94104
(415) 781-1662
Telex: 470381; 278318
Species Handled:
Canned: Tuna, sardines, mackerel, bonito, clams, crab, shrimp, salmon; Frozen: Crab, shrimp salmon

JFC INTERNATIONAL INC.
445 Kauffmann Court
So. San Francisco, CA 94080
(415) 871-1660
Telex: 331311;
TWX 910-371-7121
Species Handled:
Fresh & Frozen: Bluefin tuna, salmon (smoked, salted and roe), herring (and roe), pollock (and roe), abalone, geoduck

JACOBSEN/CLAHAN & CO.
50 California St., Suite 2200
San Francisco, CA 94111
(415) 392-3528
Telex: 910-372-6145
Species Handled:
Canned: Salmon, Dungeness crab, shrimp, clams, chowder

Alaska-Shell, INC.

PRODUCTS

- Alaska King Crab
- Alaska Snow Crab
- Alaska Salmon (canned and frozen)
- Groundfish
- Herring
- Scallops
- Shrimp
- Specialty Products

PLANTS

6 locations; Eastern Bering Sea, Gulf of Alaska and Europe.

Over 200 years accumulated management expertise in seafood processing/ marketing.
Also import-export of quality fishery products.

For Quality Foodservice Seafoods call:
Alaska-Shell, Inc., 4241 21st Avenue W., Seattle, WA 98199
(206) 285-3350 Telex: 328785 Cable: ALSHEL

Circle number 4 on the Reader Inquiry Card

JUHL BROKERAGE, INC.
4200 Olson Highway
Golden Valley, MN 55422
(612) 588-0841
Telex: 29-0714

9818 W. Sheridan Avenue
Milwaukee, WI 53225
(414) 463-9630
Telex: 26-676

5411 South 132nd Street
Omaha, NB 68137
(402) 896-0343

1709 First Avenue North
Suite F
Fargo, ND 58102
(701) 293-5851

Species Handled:
Canned: Salmon, oysters, crab, tuna; Frozen: Salmon, halibut, blackcod, bottomfish, crab, scallops

KBC KIRSTEIN BROKERAGE COMPANY
44 South West St.
Mt. Vernon, NY 10550
(212) 994-3500
Telex: 996-594 KBC TUKAY
Species Handled:
Frozen: Alaska crab products, snow crab products, halibut, salmon, flatfish; Fresh: Salmon, halibut

K & C FOOD SALES
656 So. Alameda St.
Los Angeles, CA 90021
(213) 627-3781
Telex: 67 232 (KOUCAS)
Species Handled:
Frozen: Abalone, anchovies, breaded/stuffed items, clams, crab (Dungeness, king, snow), fish blocks, halibut, herring, lobster, mackerel, mullet, oysters, Pacific groundfish, prepared fish entrees/dinners, roe, salmon, sardines, scallops, sea bass, shark, shrimp, swordfish, rainbow trout, tuna

JOST KAUFMANN IMPORT EXPORT CO. LTD.
17-6 Grenfell Crescent
Ottawa, Ont., Canada K2G 0G3
(613) 226-3887 and 226-3889
Telex: 053-4782
Species Handled:
Frozen: Salmon, halibut, Alaska king crab legs & claws, snow crab legs, shrimp, smoked seafood products

KELLEY-CLARKE CO.
C-34010, 2460 6th Avenue So.
Seattle, WA 98124
(206) 622-2581
Telex: TWX 910-444-1330
Species Handled:
Canned: Red sockeye, medium red, pink & chum salmon, shrimp, Dungeness crab

KIBUN PRODUCTS INTERNATIONAL
548 South Spring St., Suite 802
Los Angeles, CA 90013
(213) 689-4331
TWX - 9103122005
Species Handled:
Frozen blended portions of king crab meat & fish

KINGCO ENTERPRISES
P.O. Box 1926
San Mateo, CA 94401
(415) 347-0484
Telex: 331492
Species Handled:
Frozen: Whiting, sea trout, sea bass, croaker, scallops, porgy, red snapper

KING'S CHOICE FOODS CO.
656 So. Alameda St.
Los Angeles, CA 90021
(213) 627-3781
Telex: 67 232 (KOUCAS)
Species Handled:
Frozen: Abalone, anchovies, breaded/stuffed items, clams, crab (Dungeness, king, snow), fish blocks, halibut, herring, lobster, mackerel, mullet, oysters, Pacific groundfish, prepared fish entrees/dinners, roe, salmon, sardines, scallops, sea bass, shark, shrimp, swordfish, rainbow trout

LAND & SEA, INC.
P.O. Box 383
Walpole, MA 02081
(617) 668-3301
Species Handled:
Canned: Salmon, shrimp; Frozen: King crab, snow crab, salmon, shrimp, groundfish

LeBOEUF & ASSOCIATES, INC.
368 Hillside Ave.
Needham Heights, MA 02194
(617) 444-5666
TWX: 710-325-0849
Species Handled:
Canned: Shrimp, Dungeness, king crab, tuna, anchovies, snow crab, herring, salmon; Frozen: King crab, snow crab, halibut, salmon, shrimp, Dungeness, groundfish, scallops, dogfish, munk fish, squid, tuna

BRUCE B. LEVY COMPANY
710 Lakeside Ave So.,
Room 518
Seattle, WA 98144
(206) 322-3146
Telex: 32-9473 (Burgess Sea)
Species Handled:
Frozen: Salmon, crab, shrimp, abalone, squid, halibut, herring, specialty items upon request

CHARLES LEWIS & SONS
P.O. Box 356
Dania, FL 33004
(305) 920-6911
Telex: 51-4508
Species Handled:
Frozen: King crab, snow crab, shrimp, salmon

DICK LUKIN, INC.
540 Frontage Road
Northfield, IL 60093
(312) 441-8885
Species Handled:
Fresh & Frozen: Salmon, king crab, snow crab, halibut, perch, sole, Dungeness crab, shrimp

MAARTEN CATZ MERCHANDISING B.V.
P.O.B. 343
3000 AH Rotterdam
Sheikade 133
3033 BL Rotterdam
Holland
Telex: 25410
Cables MACAME
010-67-04-44
Species Handled:
Canned and frozen seafood

MAILLIARD & SCHMIEDELL
8450 Edes Avenue
Oakland, CA 94621
(415) 632-2288
TWX: 910 366 7288 (MSSF)
Species Handled:
Canned: Sardines, salmon

MARINER'S SEAFOOD PRODUCTS, INC.
1140 Fremont Avenue
South Pasadena, CA 91744
(213) 799-4166
Telex: 182-182
Species Handled:
Frozen: Halibut, salmon, shrimp, crab

MARIPAC INTERNATIONAL, INC.
Park 80 Plaza West-One
Saddle Brook, NJ 07662
(201) 845-8900
Telex: 134-376
Species Handled:
Frozen: King crab, snow crab, Dungeness crab, salmon, halibut, Pacific shrimp, squid, bottomfish

MARTIN'S SEAFOODS INC.
800 Ocean Dock Road
Anchorage, AK 99501
(907) 277-2628
Telex: 26-654
Species Handled:
Frozen: Salmon

MASSACHUSETTS COASTAL SEAFOODS, INC.
Cape Ann Industrial Park
Magnolia, MA 01930
(617) 283- 6060
Telex: 94-0537
Species Handled:
Frozen: Halibut, salmon, perch, pollock, cod, flounder, snow crab meat

McCULLOUGH SEAFOODS INC.
556 Towne Avenue
Los Angeles, CA 90013
(213) 623-1383
Telex: 69 8237
Cable: MCCULLASFD
Species Handled:
Canned: Abalone (Mexican), abalone style (Peruvian & Chilean), clams, sardines, tuna, salmon; Frozen: Salmon, king, snow & Dungeness crab, bottomfish fillets, halibut, abalone steaks, lobster, shrimp (Mexican & Ecuadorian), shrimp, P & D (Chinese)

D.H. McKEE, INC.
P.O. Box 10192
Tampa, FL 33679
(813) 877-5868
Telex: 5-2722
Species Handled:
Frozen: Crab products, fish

JACK McLEAN ASSOCIATES INC.
P.O. Box 147
Walpole, MA 02081
(617) 668-1818
Species Handled:
Canned: Salmon, shrimp; Frozen: King crab, snow crab, salmon, shrimp, groundfish

WALTER MEIER, INC.
P.O. Box 776
Milwaukee, WI 53201
(414) 783-7100
Telex: 26-9537
Species Handled:
Frozen: King crab, snow crab, Dungeness crab

MERCO INTERTRADE, INC.
4044 - 23rd Avenue W.
Seattle, WA 98199
(206) 282-5655
Telex: 32-8432
Species Handled:
Fresh: Rockfish fillets, Alaskan & Canadian salmon; Frozen: Pacific dogfish, Pacific salmon, blackcod, crab, king, snow, & Dungeness, bottomfish, Alaska shrimp, halibut

MERIDIAN PRODUCTS
364 South Central Ave.
Los Angeles, CA 90013
(213) 489-1580
Telex: 67-3113
Species Handled:
Frozen: King crab products, Dungeness crab products, halibut, salmon, shrimp, fillets

MITSUI & CO. (U.S.A.), INC.
Rm. 2201, Sea-First Nat'l Bank Bldg.
1001 4th Avenue
Seattle, WA 98154
(206) 223-5604
Telex: 328735
Species Handled:
Canned: Salmon; Frozen: Salmon

MORLEY SALES CO., INC.
809 W. Madison St.
Chicago, IL 60607
(312) 829-1125
Telex: MORESALES
Species Handled:
Canned: Tuna, salmon; Frozen: Halibut, salmon, king crab, snow crab, shrimp, lobster tails, bottomfish

JOSEPH J. MORRIS ASSOC., INC.
396 Hatch Dr.
Foster City, CA 94404
(415) 341-9261
Telex: 910-374-2366
Species Handled:
Canned: Shrimp, oysters & clams

NAKAMURA & ASSOCIATES, INC.
Suite 400, Colman Bldg.
811 First Avenue
Seattle, WA 98104
(206) 624-7653
Telex: 152969
Species Handled:
Canned: Snow crab, king crab, salmon; Frozen: Blackcod, salmon, king crab, snow crab, Dungeness crab, herring, halibut, salmon roe, herring roe

JOHN P. NEEDHAM CO.
2000 WEst 14th St.
Cleveland, OH 44126
(216) 621-4674
Species Handled:
Frozen: Alaska king crabmeat, Alaska shrimp, Alaska snow crab products

OCEAN FOODS CO.
2120 So. Canal St.
Chicago, IL 60616
(312) 225-5213
Species Handled:
Frozen: Alaskan king crab products, halibut, salmon, Oregon shrimp, sole, pollock, perch, rock cod, turbot, cod

OCEAN GARDEN PRODUCTS, INC.
2002 Riverside Dr.
Los Angeles, CA 91605
(213) 665-5291
Species Handled:
Canned: Tuna, abalone; Frozen: Shrimp (shell-on, peeled, block P & D/IQF), lobster, cod, scallops, lobster tails, whole bottomfish, abalone

OCEAN HARVEST CORPORATION
P.O. Box 401
Gloucester MA 01930
(617) 281-3131
Telex: 94-0688
Species Handled:
Frozen: Atlantic groundfish fillets, Pacific groundfish fillets, all blocks, scallops, crabs, shrimp

OCEANIC SALES CO.
3715 W. Bertona
Seattle, WA 98199
(206) 283-8836
Species Handled:
Canned: Salmon, crab, tuna, shrimp; Frozen: Salmon, crab, shrimp

OVERSEAS FOOD PRODUCTS
25 Sylvan Road South, Ent. H
Westport, CT 06880
(203) 227-4188
Telex: 96/5836 CONFRIO WEPT
Species Handled:
Canned: Sardines; Frozen: Shrimp, lobster tails, scallops, snapper catfish

P & S SALES COMPANY, INC.
2029 Riverside Drive
Columbus, OH 43221
(614) 486-5316
TWX: 810-482-1151
Species Handled:
Canned: Salmon; Frozen: King crab, queen crab, Alaskan shrimp

PACIFIC PEARL SEAFOODS
Box C-10220
Bellevue, WA 98052
(206) 453-460C
Telex: 32-0068
Species Handled:
Canned: Snow crab meat, king crab meat, shrimp, specialty items; Frozen: Snow crab meat, king crab meat, shrimp, specialty items

PACIFIC WESTERN SEAFOODS, INC.
444 N.E. Ravenna Blvd., Suite 204
Seattle, WA 98115
(206) 522-9411
Species Handled:
Canned: Salmon; Frozen: Salmon, halibut, Dungeness crab

PACKINGHOUSE SALES CO.
2312 Kam Highway
Honolulu, HI 96819
(808) 847-3032
Telex: 7430107/7236841
Species Handled:
Frozen: King crab, Dungeness crab, cooked shrimp, salmon, sole

PEASLEE MARKETING COMPANY
3162 East LaPalma, Suite C
Anaheim, CA 92806
(714) 632-8656
Species Handled:
Canned: Salmon; Frozen: Alaskan king crab, Alaskan snow crab, halibut, salmon, shrimp, Dungeness crab, Eagle Island clams, blackcod

PELICAN COLD STORAGE CO.
653 N.E. Northlake Way
Seattle, WA 98105
(206) 632-9000
Telex: 32 8911
Species Handled:
Frozen: Salmon, halibut, snow crab, king crab, Dungeness crab, blackcod

PETERSBURG PROCESSORS, INC.
207 Fishermen's Terminal
Seattle, WA 98119
(206) 284-4833
Telex: 328852
Species Handled:
Canned: Salmon; Frozen: Salmon

PIONEER FISHERIES
311 First Avenue So.
Seattle, WA 98104
(206) 624-8250
Telex: 15-2255 FISHCO-BVUE
Species Handled:
Canned: Salmon; Frozen: Salmon

POLAR STAR SALES
207 Fishermens Terminal
Seattle, WA 98119
(206) 283-8000
Telex: 328852
Species Handled:
Canned & frozen salmon

PRELUDE FOODS INTERNTIONAL, INC.
200 S.W. Michigan, Suite 107B
Seattle, WA 98106
(206) 762-0260
ITT: 471117
TWX: 910-444-4104

P.O. Box 357
North Kingstown, RI 02852
(401) 294-9558
Telex: 927679 PFI NKTN

P.O. Box 29249
Honolulu, HI 96820
(808) 833-9048
Telex: 7238243 SALES HR

Species Handled:
Frozen: Salmon, Pacific bottomfish, Atlantic groundfish, mahi mahi, Ecuador shrimp, eastern scallops, halibut, Alaska crab

RAINIER FISHERIES, INC.
1351 Bellefield Park Lane
Bellevue, WA 98004
(206) 453-0971
Telex: 152903 Gulf Coast
Species Handled:
Canned: Salmon, shrimp, oysters, tuna; Frozen: Herring, herring with roe, salmon, salmon with roe, king crab, tanner crab, shrimp, halibut, tuna

RAY SALES COMPANY
P.O. Box 5042
Walnut Creek, CA 94596
(415) 932-8089
Species Handled:
Louisiana dried shrimp

J.B. RUTH & COMPANY
114 South Central Avenue
Los Angeles, CA 90012
(213) 624-6011
Telex: 67-3142
Species Handled:
Frozen: Fish and other seafoods

SCHULMAN-SHEPARD CO. & ACLI SEAFOOD CO.
302 Magazine St.
New Orleans, LA 70130
(504) 381-4220
Telex: WU 58-355
Species Handled:
Frozen: Shrimp, crab products

SEA CHOICE INTL. INC.
303 Columbus Ave.
San Francisco, CA 94133
(415) 391-9677
Telex: 171045 SEACHOICE SFO
Species Handled:
Frozen: Crabmeat (king, snow, tanner, Dungeness), salmon, halibut, scallops, clams, bottomfish

SEA RUN SEAFOODS LTD.
1818 Westlake Ave. No., Suite 422
Seattle, WA 98109
(206) 282-7800
Telex: 32-8006
Species Handled:
Canned: Salmon; Frozen: Salmon, king crab, tanner crab, shrimp, shrimp meat, salmon steaks, halibut, blackcod

SEAEX PRODUCTS LIMITED
2115 Commissioner Street
Vancouver, B.C.,
Canada V5L 1A6
(604) 251-3531/2/3
Telex: 04-53415
Species Handled:
Canned: Salmon, tuna; Frozen: Salmon, halibut, Dungeness crab, prawns, herring, herring fillets

THE SEAFOOD MERCHANT, INC.
4502 14th Ave., N.W.
Seattle, WA 98107
(206) 789-4015 & 789-7402
Telex: 32-10-96
Species Handled:
Frozen: King crab, snow crab, Dungeness crab, pink salmon, chum, king, red, and silver, halibut, blackcod, snapper, ling cod, true cod, ocean perch, Alaska shrimp

SEAPORT SEAFOODS, INC.
6923 S.E. 35th
Mercer Island, WA 98040
(206) 232-6963
Telex: 32-9472 Mismrid
Species Handled:
Canned: Salmon, sardines; Frozen: Salmon, king crab, snow crab, Dungeness crab, squid, halibut, bottomfish, shrimp, prawns

DUDLEY SLOCUM & CO., INC.
740 So. Fulton Avenue
Mount Vernon, NY 10550
(914) 699-6650
Telex: 710-562-0105
Species Handled:
Frozen: Salmon, halibut, cod, haddock, turbot, ocean perch, flounder, pollock, scallops, breaded shrimp, clams

SOUTHWESTERN SEAFOOD SALES, INC.
2653 Tarna Drive
Dallas, TX 75229
(214) 241-5038
Species Handled:
Canned: Oysters; Frozen: Shellfish & crab items, salmon, halibut, oysters

STERBENZ SEAFOOD SALES
Box 114
Shawnee Mission, KS 66201
(913) 362-5408
Species Handled:
Frozen: King, snow & Dungeness crab, halibut, salmon, clams, oysters, scallops, shrimp, all species north Atlantic fish

SUNBELT FOODS COMPANY
2300 Henderson Mill Rd. N.E.
Atlanta, GA 30345
(404) 939-7567
Species Handled:
Canned: Sardines, salmon; Frozen: King crab, snow crab, shrimp, salmon

SUNSET SEAFOODS COMPANY INC. & D & B SEAFOOD BROKERAGE INC.
829½ East Colorado Blvd.
Glendale, CA 91206
(213) 246-6578
Species Handled:
Frozen: Shrimp, crab

SUNSHINE FOOD SALES, INC.
25 Southwest South River Dr.
Miami, FL 33130
(305) 547-2770
Species Handled:
Frozen: Shrimp, crab, squid, fish fillets, lobster

E.C. SWEENEY & CO.
1098 S. Milwaukee Ave.
Wheeling, IL 60090
(312) 541-4060
Species Handled:
Frozen: King crab, snow crab, shrimp, salmon, halibut, bottomfish

SWIFTSURE FISHERIES, INC.
200 W. Thomas St.
Seattle, WA 98119
(206) 284-9860
Telex: 32-1013
Species Handled:
Canned: Salmon; Frozen: Salmon, halibut, king crab, snow crab, herring, shrimp

THREE CROWN SALES, INC.
8350 N. Lincoln Avenue
Skokie, IL 60077
(312) 676-4777
Species Handled:
Canned: Salmon, shrimp, caviar, herring, lobster, crab meat, snails, octopus, oysters, frog legs

THREE MOUNTAINS FOODSERVICE INC.
12221 E. Amherst Circle
Aurora, CO 80014
(303) 695-4334
Species Handled:
Frozen: Alaska-Shell (king crab), shrimp

THE TUPMAN THURLOW CO.
P.O. Box 6006
San Mateo, CA 94403
(415) 574-8825
TWX: 910-374-2359
10 Lexington Avenue,
Room 2643
New York, NY 10170
(212) 949-9622
Species Handled:
Frozen: Lobster tails, shrimp, crab, turbot, cod, flounder/sole, ocean perch, scallops, red snapper

TRANS-ASIATIC, INC.
103 - 200 W. Thomas Bldg.
Seattle, WA 98119
(206) 285-2153
Telex: 32-1147
Species Handled:
Frozen: Salmon, herring, crab, salmon eggs, herring roe, herring roe on kelp

TRANS WORLD SEAFOOD, INC.
600 Third Avenue
New York, NY 10016
(212) 687-1450
Telex: 12-7481
Species Handled:
Frozen: Grey sole, turbot, shrimp, lobster, squid, octopus

TRI-STATE SALES CO. INC.
P.O. Box 1040
Glen Burnie, MD 21061
(301) 768-4600
800-638-5018
Species Handled:
Frozen: Flounder, cod, haddock, salmon, turbot, sole, lobster, whiting, pollock, mackerel, shrimp

UNDERDOG INC.
2828 S.W. Kelly
Portland, OR 97201
(503) 241-0684

UNION FISH COMPANY
100 Bush St.
San Francisco, CA 94104
(415) 392-6313
RCA: 278616
TWX: 910-372-6015
Species Handled:
Canned: Squid, shrimp, snow crab, mackerel, salmon; Frozen: King crab, snow crab, salmon, smoked salmon, shrimp, blackcod, scallops, oysters, clams, octopus, fillets, squid, mullet, salted, dried & smoked fish

UNIVERSAL MERCANTILE CORPORATION
600 Montgomery Street,
41st Floor
San Francisco, CA 94111
(415) 421-8204
Telex: ITT 470268
Seattle Branch Office
1818 Westlake Avenue North,
Suite 414
Seattle, WA 98109
Species Handled:
Canned: Salmon, king crab, shrimp; Frozen: Salmon, king crab, snow crab, blackcod, bottomfish, salmon roe, other species of seafood

VINCENT, WADE & HINES, INC.
P.O. Box 12266
Seattle, WA 98112
(206) 323-7400
230 South Garfield Ave.
Los Angeles, CA 91754
(213) 288-8441
Telex: 673388
Species Handled:
Frozen: King & snow crab products, salmon — all species; Fresh & frozen: Australian lobster tails, Mexican shrimp, Dungeness crab

VISTA PACIFIC, INC.
3030 Bridgeway
Sausalito, CA 94965
(415) 332-6990
Telex: 340 944
Species Handled:
Canned: Chunk style sardines; Frozen: Salmon, crab, shrimp, lobster

WASHINGTON FISH & OYSTER CO. OF CALIF.
P.O. Box 3894
San Francisco, CA 94119
(415) 543-7890
Telex: WU: 34-0621
RCA: 278763
Species Handled:
Canned: Cooked & peeled shrimp meat, king crab meat, salmon, snow crab meat; Frozen: Sole (petrale, English, Dover) fillets, flounder fillets, rock fish fillets, halibut (dressed & steaks), salmon (dressed & steaks), king crab meat, snow crab meat, Dungeness crab sections, snow crab sections, cooked & peeled shrimp meat, blackcod, dressed

WENDT INTERNATIONAL, INC.
401 Colman Bldg.
Seattle, WA 98104
(206) 682-6722
Telex: 152969
Species Handled:
Canned: Salmon, crab, shrimp; Frozen: King crab, snow crab, Dungeness crab, hair crab, salmon, cod, pollock roe, herring roe

WILBUR-ELLIS COMPANY
320 California St.
San Francisco, CA 94119
(415) 772-4000
Telex: TWX: 910-372-6129
WU: 340209
Overseas: RCA 278781
ITT 470089
Species Handled:
Canned: Sardines, squid, mackerel, tuna, anchovies; Frozen: Lobster tails, prawns, shrimp, cooked & peeled, halibut, crab (king, snow, Dungeness), Pacific cod & blackcod, pollock, scallops

WOLIMCO, INC.
11825 S.W. King James Pl.
Tigard, OR 97223
(503) 620-6576
Telex: 151137
Species Handled:
Canned: Salmon; Frozen: Salmon, sole, cod, dogfish, halibut, king crab, snow crab, trout

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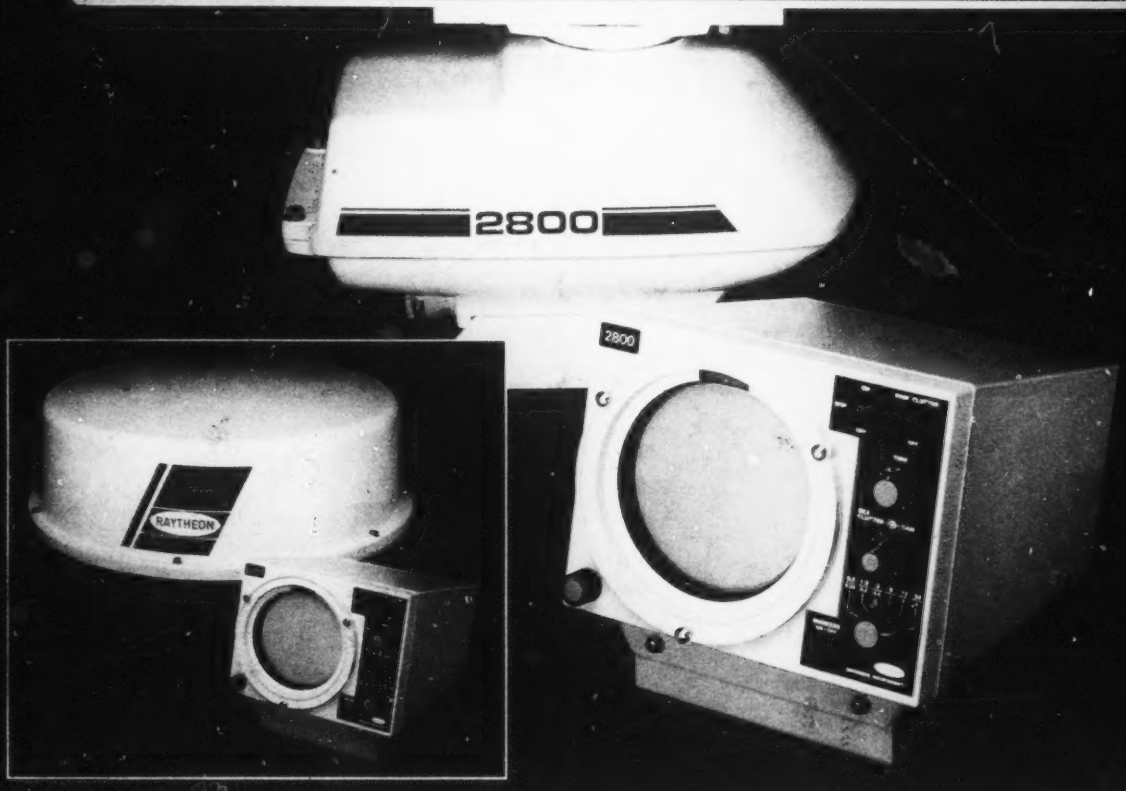

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